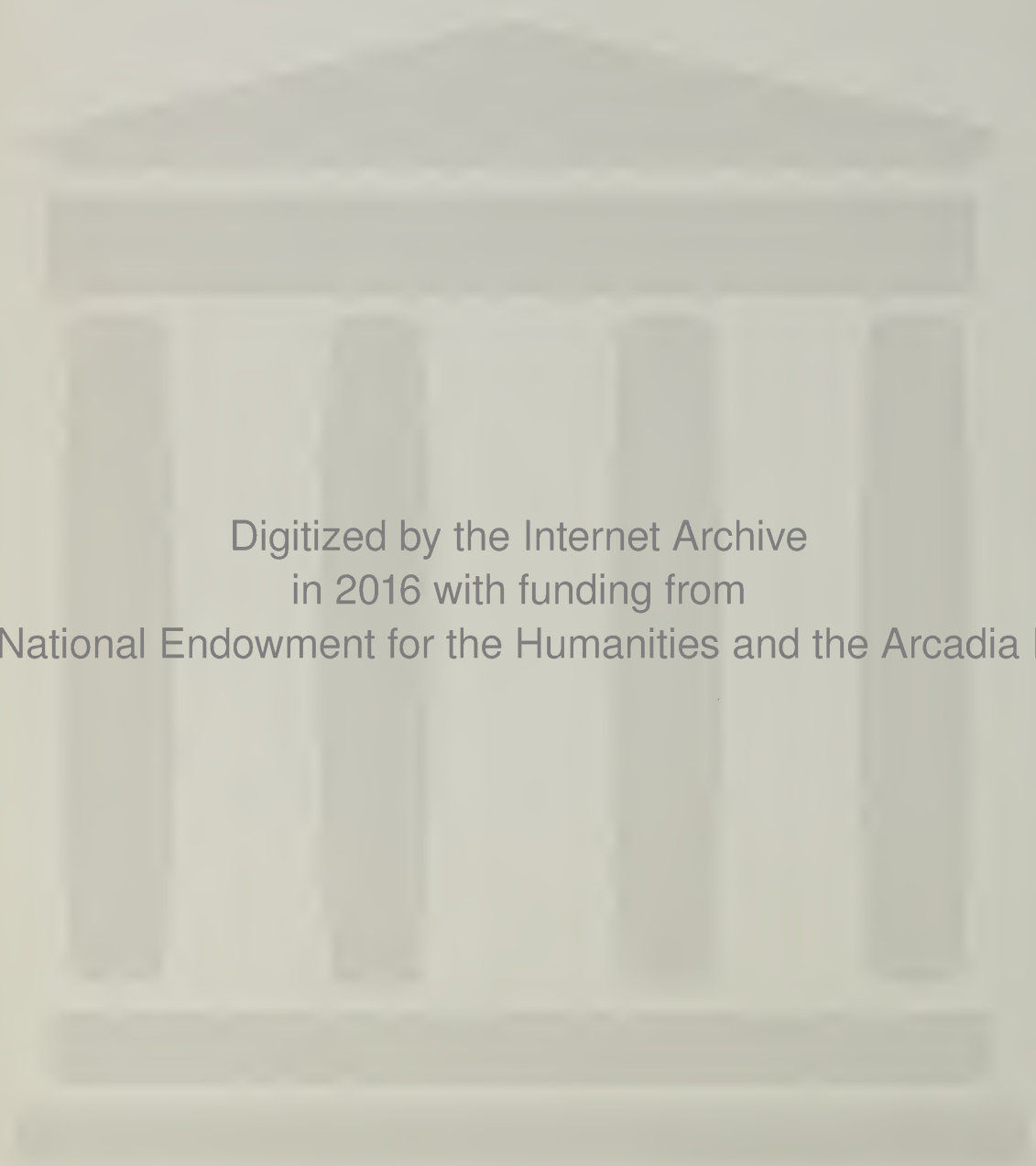




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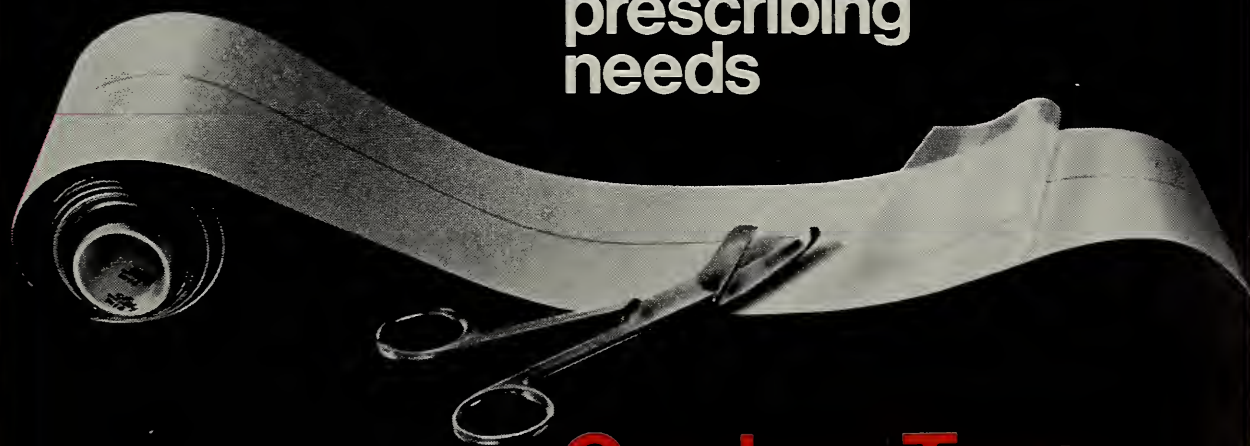
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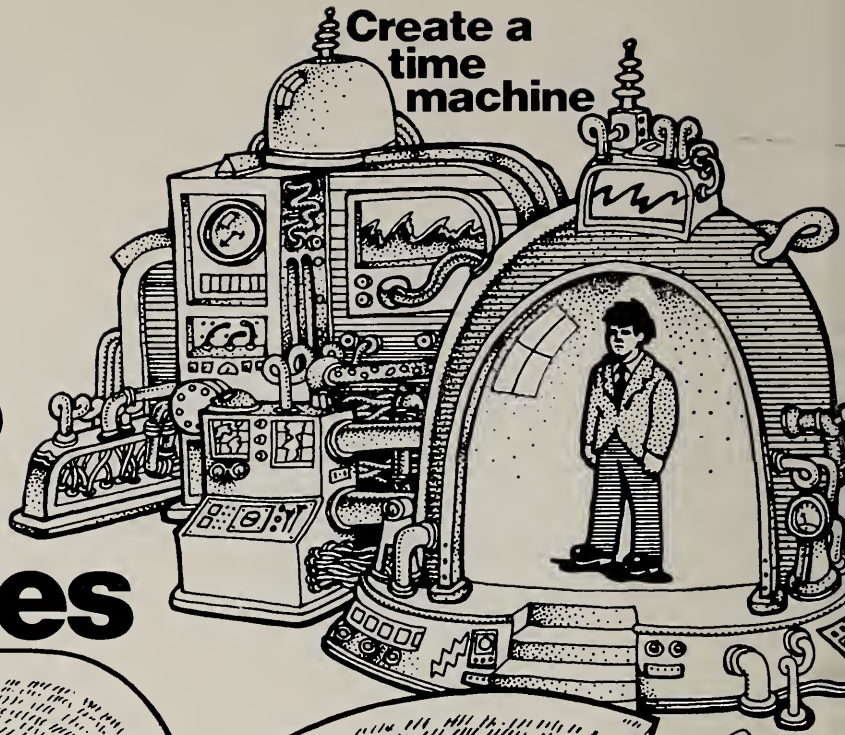
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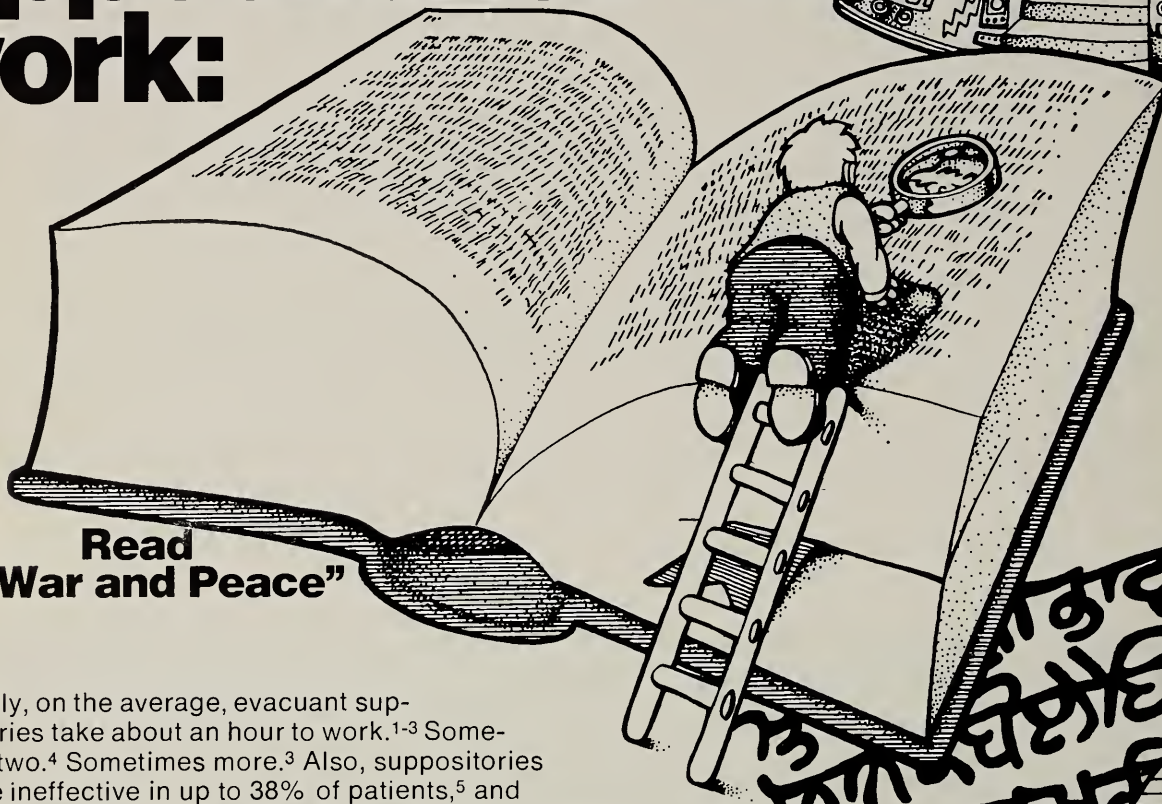
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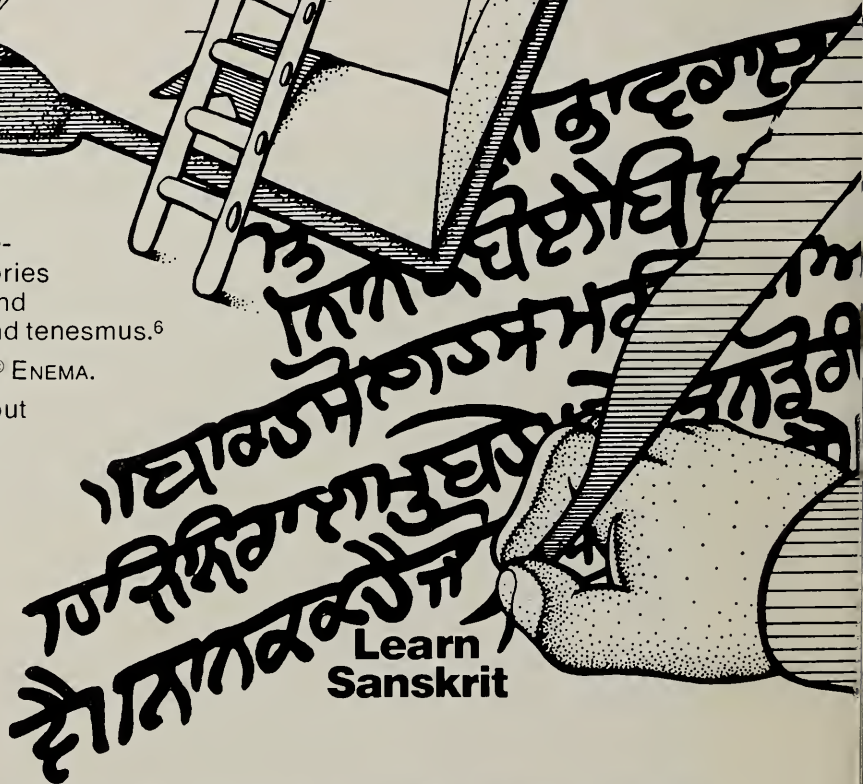
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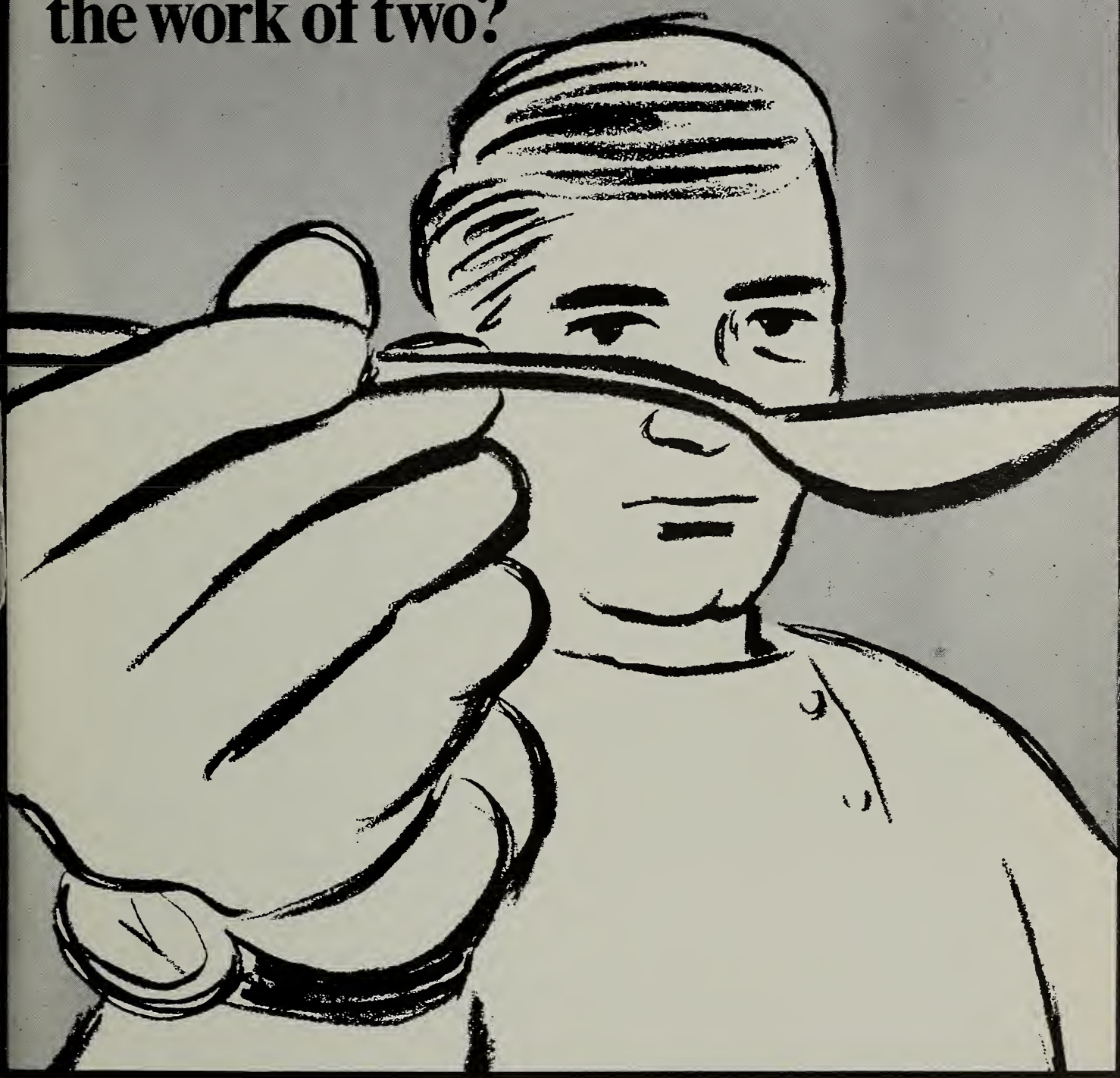
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# CONTENTS

Volume XXIV

January 1971

Number 1

## Ganglion Cyst Causing Ulnar Compression Syndrome at the Wrist . . . . .

James B. Kullbom, M.D.; Robert E. Van Demark, M.D. . . . . 5

## North American Blastomycosis . . . . . (Second Article in Series)

S. Sochocky, M.D., F.C.C.P. . . . . 14

## Clinicopathological Conference . . . . .

## This Is Your Medical Association . . . . .

## Minutes of the Council Meeting . . . . .

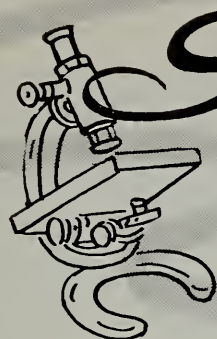
## President's Page . . . . .

## Editorial: "The Fainting on the John" — Syndrome . . . . .

E. H. Heinrichs, M.D. . . . . 35

*Meeting agenda*





# Scientific

# PAPER

## GANGLION CYST CAUSING ULNAR COMPRESSION SYNDROME AT THE WRIST\*

James B. Kullbom, M.D.

and

Robert E. Van Demark, M.D.

The symptoms of chronic nerve compression are those of weakness, numbness, tingling, burning and pain over the distribution of the nerves.

When the practitioner encounters a patient with these symptoms present in an extremity, he may be impressed with the severity of the complaints and the absence of visible organic disease. This may lead to a failure to properly diagnose the problem, or to a diagnosis of hysteria.

One of the more interesting nerve compression syndromes is that of ulnar nerve compression at the wrist.

The ulnar nerve is derived from the eighth cervical and first thoracic nerve roots. These branches join to form the largest branch of the medial cord of the brachial plexus. Six to eight centimeters proximal to the wrist, the dorsal cutaneous branch to the hand leaves the main nerve. The ulnar nerve then passes through the ulnar carpal canal to the hand.

This narrow ulnar carpal canal was first described by a French urologist, Felix Guyon, in 1861, and is also referred to as the Canal of Guyon. The canal is formed by the hook of the hamate laterally and distally, the pisiform proximally and medially. The floor is formed by the volar carpal ligament and the roof is formed by the thick transverse carpal ligament. The canal contains a small amount of fat, an artery, and the ulnar nerve. There are no tendons or tendon sheaths in the canal.

As it enters the canal, the nerve bifurcates into a superficial sensory and a deep motor branch. As the deep motor branch leaves the canal with the artery it turns sharply around the hook of the hamate and travels between the origins of the abductor digiti quinti and flexor digiti quinti brevis muscles. It then passes through the opponens digiti quinti and travels across the interossei, dorsal to the flexor tendons of the fingers and ends in the first dorsal interosseus muscles and occasionally the flexor pollicis brevis. The superficial branch leaves the canal, innervates the palmaris brevis muscle and passes through a fat pad deep to this muscle. It then continues on subcutaneously to provide sensory innervation to the ulnar surface of the hypothenar eminence and the ring and little fingers.

Three types of ulnar nerve compression syndromes have been described in relation to the location of masses at the Canal of Guyon.

### Type I Syndrome

The Type I syndrome consists of a motor weakness of all the ulnar innervated muscles of the hand combined with a sensory deficit to the ulnar two fingers and the palmar surface of the hypothenar eminence. The Type I syndrome is caused by ulnar nerve compression in the Canal of Guyon or just proximal to it. This Type I syndrome can be differentiated from ulnar nerve compression at the elbow as normal sensation is still present on the medial side of the dorsum of the hand.

\* Paper presented at the annual meeting of the S. Dak. Chapter of the American College of Surgeons, April 11, 1970, Aberdeen, S. Dak.

### Type II Syndrome

In the Type II syndrome the pressure on the nerve occurs where it leaves the Canal of Guyon in the region of the hook of the hamate. The superficial sensory branch is unaffected and the findings consist of motor weakness in ulnar innervated muscles of the hand. The number of muscles involved depends on the site of compression along the deep branch.

### Type III Syndrome

In the Type III syndrome, the superficial branch is traumatized or compressed just as it leaves the Canal of Guyon. This may be a superficial mass or a blow to the area. The deep motor branch is spared. Findings include a sensory deficit over the ulnar two fingers and the volar surface of the hypothenar eminence. There is no associated motor weakness.

### Case Report #1

A 35 year old white male farmer was seen for the first time on 11-29-69 with a chief complaint of numbness in the left hand extending into the ring and little fingers. He also had complaints of pain to a lesser extent between the thumb and first finger of the left hand. The patient stated that this numbness and pain began on about the 14th of September in 1969. On that date, he was

working with a power take-off at his farm and struck his hand against the power take-off pin. He denied any other known injury and stated that the hand became numb at the time of injury and he began to have pain in the thumb and 1st finger approximately two months later. He was seen by his local doctor and was referred to the Van Demark Clinic on 11-29-69. His past medical history included an old amputation of part of the middle finger on the left hand incurred in a generator belt accident in 1953.

Physical examination on admission to the clinic revealed loss of sensation over the ring and little fingers on the left hand. Electromyographic studies were performed on 11-29-69 and also on 12-3-69. The right ulnar nerve was studied first and at the conclusion of these studies, it was found that the right ulnar nerve NCV was 55.1 meters per second (normal is 40 to 60, plus or minus 5 meters per second). The left ulnar nerve was then studied and the NCV was found to be only 35.9 meters per second. Sensory studies of the right ulnar nerve revealed a conduction time of 2.3 milliseconds required for response. On the left side sensory studies revealed no response to stimulation and typical fibrillation potential was present at rest.

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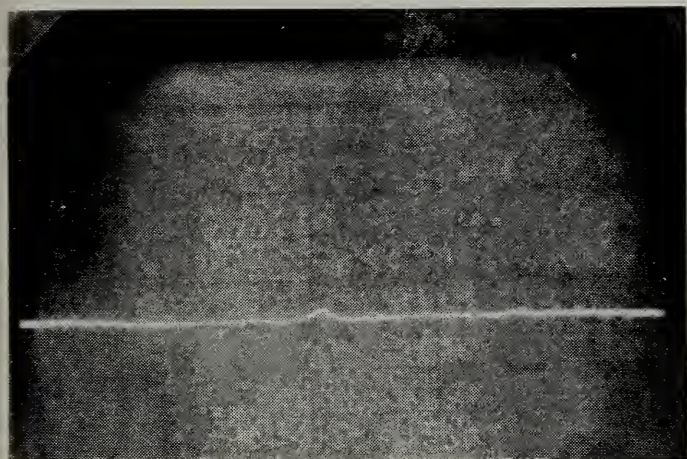
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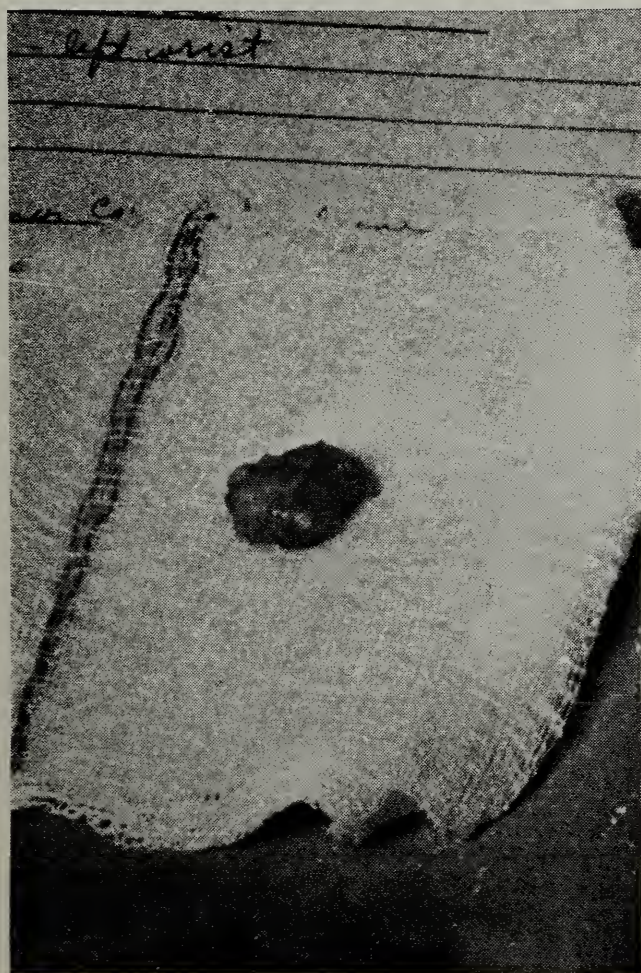
(Figure 1). These EMG studies were consistent with compression of the ulnar nerve at the level of the tunnel of Guyon. The patient was admitted



**Figure 1.**

Electromyographic study of the left ulnar nerve. Sensory studies revealed no response to stimulation. A typical fibrillation potential is shown.

to McKennan Hospital on 12-4-69 for exploratory surgery on the ulnar tunnel of Guyon on the left side. Upon exposing the tunnel of Guyon on the left side, a ganglion was found lying in the tunnel and compressing the nerve. (Figure 2)



**Figure 2.**

A photograph of the ganglion cyst removed from the left Canal of Guyon of Case #1.

The ganglion was removed completely and the

nerve was restored to its original position. Microscopic examination proved the lesion to be a ganglion cyst. The patient was discharged the following day. He was seen on 12-13-69 and had noted cessation of pain and was getting some return of function in his 1st dorsal interosseous muscle on the left side. The patient's guitar playing talents had returned to normal by March of 1970.

The patient was last seen on August 12, 1970 at which time he had an excellent result and his left ulnar nerve sensory conduction time was 3.0 milliseconds as compared to the right of 2.4 milliseconds.

#### **Case Report #2**

A 45 year old married white female presented herself with complaints of weakness in the left hand with numbness and tingling in the left ring and little fingers. The symptoms first appeared in December of 1969. Her past medical history included a razor blade injury to the left wrist twenty years ago. She stated that she had no medical attention at the time of this injury and that healing was spontaneous. She also contracted rheumatic fever, scarlet fever, pneumonia and hay fever as a child and has had seven pregnancies. Her father died of heart trouble at age 54 and her mother has hyperten-

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sion at the age of 81. Two of her sisters have multiple sclerosis and one brother and one sister are in good health. A maternal grandmother had cancer.

Physical examination revealed loss of sensation over the left little finger and the lateral side of the ring finger. The hand had the typical ulnar palsy picture with severe muscle atrophy of the hypothenar and interosseous muscles. (Figure 3) Electromyographic studies revealed a prolonged sensory conduction time of the left ulnar nerve (5.8 milliseconds).

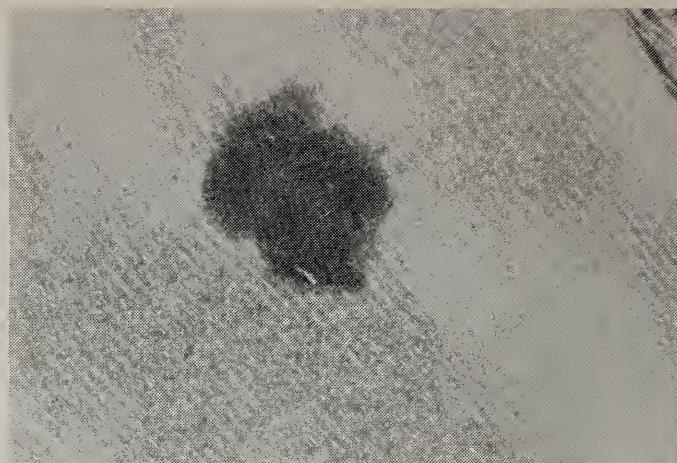


**Figure 3.**

Severe muscle atrophy of the muscles of the left hand of Case #2. Note particularly the atrophy of the 1st interosseous muscle.

The patient was taken to surgery on 4-7-70 and a ganglion cyst measuring 6 mm. in diameter was located at the entrance of the Canal of Guyon compressing the left ulnar nerve. It was dissected free and removed. (Figure 4) Microscopic examination confirmed that it was a true ganglion cyst.

The patient was last seen on July 30, 1970 at which time her conduction time had improved and was now down to 2.4 milliseconds as compared to the opposite right ulnar nerve which had a sensory conduction time of 2.0 milliseconds. Her function in her hand was excellent and she had no complaints.



**Figure 4.**

The ganglion cyst removed from the entrance of the left Canal of Guyon.

### Discussion

A review of the literature reveals nineteen different lesions which have caused ulnar nerve compression at the wrist.

Shea and McClain tabulated 136 cases found in the literature and reported that thirty per cent were Type I, fifty-two per cent were Type II, and eighteen per cent were Type III. They found no correlation with age or sex. Most lesions cause reversible neuropathies. It is virtually impossible to determine the type of lesion causing the syndrome and it is recommended that each case should be thoroughly explored.

The syndromes are usually well developed when first seen because the onset of symptoms is very gradual. The action of the thumb and extrinsic muscles of the hand and wrist are not hampered and the motor deficit may go unnoticed unless manual dexterity is used on the job.

When a patient presents symptoms of an ulnar compression syndrome, it is important to obtain a thorough history of systemic diseases present, such as rheumatoid arthritis, diabetes mellitus, connective tissue diseases, and any other neural disorders. A description of the patient's occupation may be enlightening. A description of all injuries to the extremity is also important. Abnormalities of the cervical spine, shoulder, and elbow should also be excluded. Tests should include X-rays of the wrist and hand to rule out fractures or dislocations. Electromyographic and nerve conduction studies should also be performed.

(Continued on page 11)

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(Continued from page 8)

As was stated, once the diagnosis is made of ulnar nerve compression at the wrist, surgical exploration and decompression is the treatment of choice.

#### Summary

Three types of ulnar nerve compression at the wrist are discussed and two typical personal cases are presented. A guide to diagnosis and the recommendation of surgical exploration and decompression of the nerve are presented.

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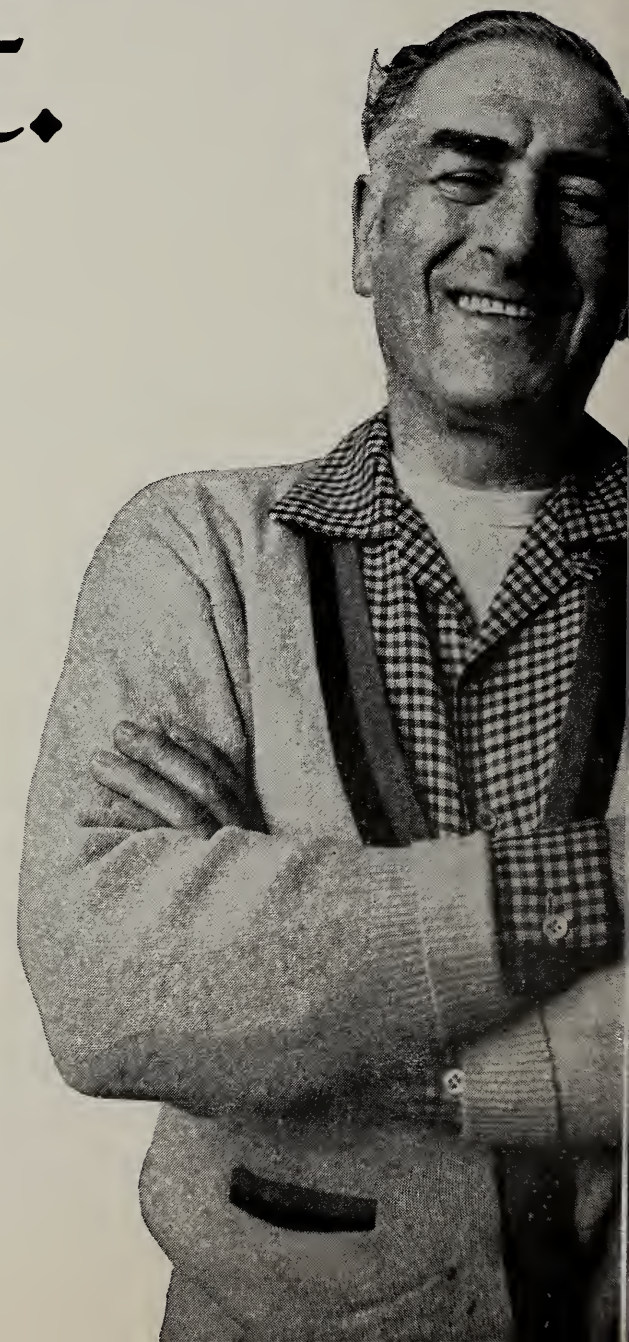
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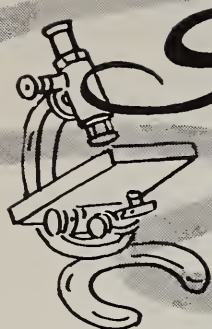
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# Scientific

# PAPER

## SECOND ARTICLE IN SERIES

## NORTH AMERICAN BLASTOMYCOSIS

by

S. Sochocky, M.D., F.C.C.P.\*

### Introduction:

North American blastomycosis is a systemic, granulomatous and suppurative infection caused by *Blastomyces dermatitidis*.

Gilchrist,<sup>1</sup> in 1894, described a large, oval parasite in sections of skin from hand lesion of a patient. Later Gilchrist and Stokes<sup>2</sup> isolated a fungus and named it *Blastomyces dermatitidis*, in 1896.

### Bacteriology:

*Blastomyces dermatitidis* is a fungus 8 - 15 microns in diameter with thick refractory wall and may be isolated from soil, where it exists as a saprophyte. According to Schwartz and Baum,<sup>3</sup> this disease is caused by inhalation of spores from a saprophytic source and systemic blastomycosis is secondary to the pulmonary infection. Incubation period of this disease has not been definitely settled. There has been no evidence that this infection may be transferred from animal to man, although this fungus is not uncommon in dogs and horses. J. Fred Denton<sup>4</sup> et al. reported a case of laboratory assistant who probably acquired blastomycosis while handling cultures of mycelia form of *Blastomyces dermatitidis*. Michael W. Craig<sup>5</sup> et al. described a married couple in which the husband had disseminated blastomycosis involving the prostate, epididymis and testicle and the wife concomitantly had blastomycosis involving endometrium, fallopian tubes and peritoneum.

The incidence of infection is said to be highest in rural areas and among agricultural workers. North American blastomycosis is found in at

least 28 states in this country, however, it is more often found in Louisiana, Tennessee and North Carolina; Quebec and Ontario in Canada.

### Pathology:

The histopathological reaction of tissue to *Blastomyces dermatitidis* is a combination of suppuration and epithelial cell granulomatous reaction with giant cells, Langhan's type, which contain round or oval fungus. In lungs it is usually found as a round nodule or bronchopneumonia, or thin walled cavity. Fibrosis may be present but calcification is not characteristic.

North American blastomycosis almost always begins as a pulmonary infection which may be asymptomatic or cause symptoms. Asymptomatic pulmonary lesions are often found on chest films. Primary pulmonary infection may progress as in any other granulomatous infection to other forms, as chronic or acute, fulminating, or become disseminated. Acute, fulminating cases of blastomycosis, if not recognized early, may end fatally.

A 44 year old male was treated for pulmonary tuberculosis. However, as his progress was unsatisfactory, further studies of sputum showed *Blastomyces dermatitidis*. Treatment with amphotericin B was started but his general condition deteriorated and he died two weeks after admission to hospital. (See Figures 1 and 2).

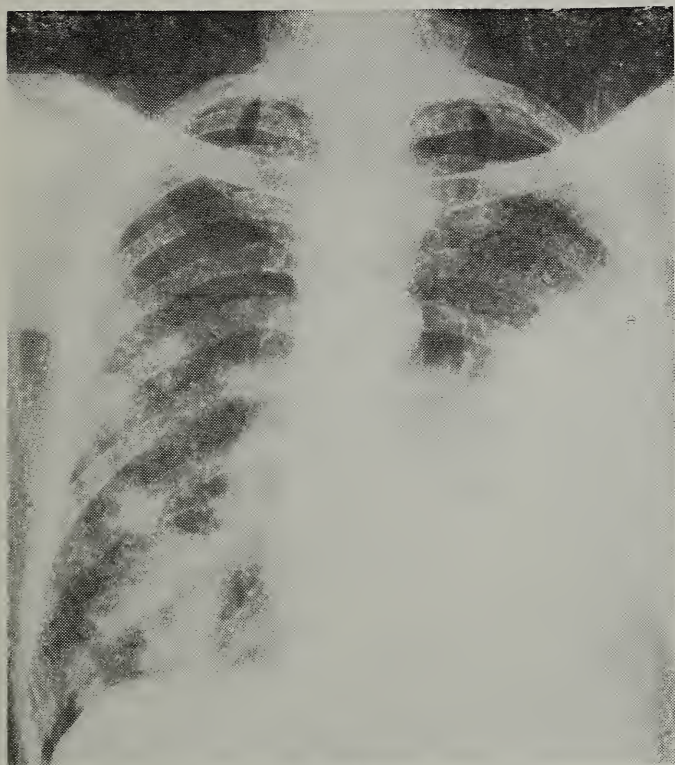
From primary lesion in lung *Blastomyces dermatitidis* may disseminate throughout body by hematogenous or lymphatic route and invade almost any system of the body, e.g. skin, skeletal system, central nervous system and genitourinary tract. In disseminated form North American blastomycosis usually presents itself as a disease of lungs and skin. The involvement

\* Department of General Medicine, Veterans Administration Center, Sioux Falls, S. D. Assistant professor of Internal Medicine, University of South Dakota School of Medicine.



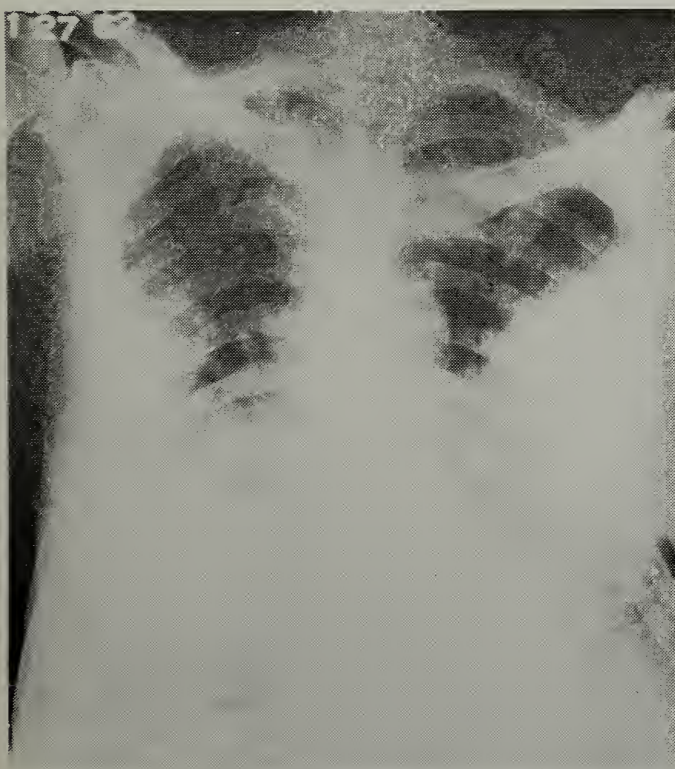
of bones and joints varies between 27 - 50 per cent.

Urogenital infection may occur with systemic form of disease but diagnosis is rather difficult. Between January 1, 1952 and December 31, 1966,



**Figure 1.**

Chest film 11.14.62 shows a large density on left side with scattered infiltrations in middle and lower portion of right lung.



**Figure 2.**

Chest film 11.27.62 shows an increase of densities on the right, left side remains unchanged.

63 patients were treated for blastomycosis at

Duke University Medical Center.<sup>6</sup> Systemic disease was noted in 25 cases, urogenital involvement found in 4. Urogenital infection with blastomycosis chiefly found in prostate gland and epididymis.

Skin lesions usually slowly develop into ulcers with serpinginous, elevated, advancing, violaceous borders. These ulcers may be associated with lymphadenopathy.

Oral lesions due to North American blastomycosis are also described and may be more common than has been believed.

Disseminated blastomycosis with meningeal involvement was described by Robert L. Rainey<sup>7</sup> et al.

#### **Laboratory data:**

There are no definite characteristic laboratory findings in North American blastomycosis. There may be secondary anemia, white cell count and sedimentation rate may be elevated.

#### **Clinical Manifestations:**

Signs and symptoms depend on the form of disease and the system of the body involved. The main symptoms of pulmonary blastomycosis are cough, purulent, sometimes blood tinged sputum and pain in chest, which quite often disappear without treatment. The patient may also have constitutional symptoms as a fever, general weakness, loss of appetite and weight. In our series<sup>8</sup> of 15 patients, cough was the first symptom in 8 patients, spitting blood in 3, abnormal chest film in 1, shortness of breath in 1, chest pain in 1 and swelling of chest wall in 1. Depending on degree of pulmonary involvement rhonchi, crepitations, consolidation with dullness and bronchial breathing may be found.

#### **Radiological findings:**

There are no characteristic radiological features of North American blastomycosis. Chest film may show infiltrations with or without cavity, diffuse mottled infiltration or a density with or without enlargement of mediastinum. Calcification is usually not found and pleural effusion is uncommon. Radiological findings in 15 patients in our series<sup>8</sup> showed involvement of lungs in 8 patients, one lung in 7. Findings in chest film may be divided in the following groups: a) disseminated type of lesion in 3 patients, b) chronic infiltration with thin walled cavities in upper parts in 4, c) "pneumonic" in 7 and "pleural changes" in 1 patient. No calcification was found but pleural fluid found in 1 patient. Mediastinum was enlarged in 2 patients only.



### Discussion:

History, residence of patient, course and laboratory investigations may help in diagnosis. North American blastomycosis may be found in any age, however, most frequently between 30-50 with 80 per cent of cases occurring in males. In our series<sup>8</sup> of 15 patients, there were 11 males and 4 females, the youngest 19 years and the oldest 69, remainder between 30-55.

In blastomycosis skin test may be of some help. This is different from tuberculin, histoplasmin and coccidioidin skin tests which have considerable diagnostic value.

A complement fixation titer of 1 - 8 greater when associated with clinical signs may be a presumptive evidence of infection with *Blastomyces dermatitidis* and titer 1 - 32 may suggest active disease. This test is of diagnostic value if positive. In our series<sup>8</sup> of 15 patients, blastomycin skin tests were positive in 4, negative in 8 and complement fixation test was negative in all cases.

Blastomycosis may be complicated by other diseases and in E. J. Cherniss<sup>9</sup> et al. series of 40 patients, 16 had associated diseases "that occurred during the course of blastomycotic infection, 3 had syphilis, 4 had pulmonary tuberculosis, and other diseases."

In our series<sup>8</sup> of 15 patients, 2 had pulmonary tuberculosis. The first patient had blastomycosis

of skin and lungs in 1949, treated successfully with potassium iodide. In 1950 he developed tuberculosis of lungs, genito-urinary and skeletal systems. The second patient had pulmonary tuberculosis since December 1961, treated with isoniazid and para-aminosalicylic acid with satisfactory results. She developed swelling and abscess in groin which was discharging pus, in March 1962. (See Figure 3). Biopsy of this swelling and culture of pus showed *Blastomyces dermatitidis*. (See Figure 4). She received a course of 2-hydroxystilbamidine.

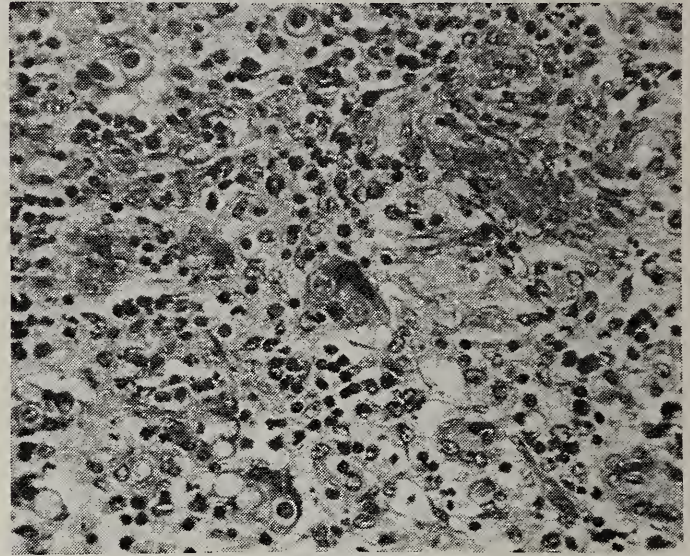


Figure 4.

Biopsy of a swelling in left groin and culture of pus from sinus showed *Blastomyces dermatitidis*.

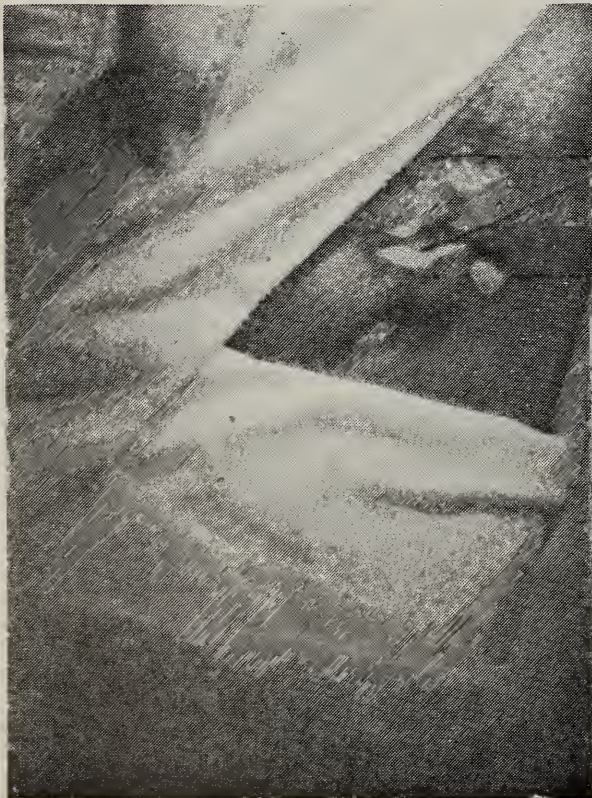


Figure 3.

Photograph shows skin lesions with sinuses in left groin and probe inserted in sinus.



Figure 5.

Sinuses healed following treatment with 2-hydroxystilbamidine.



dine following which sinuses healed. (See Figure 5).

As signs and symptoms of pulmonary blastomycosis may mimic almost any granulomatous or neoplastic disease it should be suspected in any chronic pulmonary disease of undetermined etiology. Blastomycosis usually runs a chronic course but in some cases runs a fulminating course and if not recognized early ends fatally. Diagnosis should be based on isolation of *Blastomyces dermatitidis* from culture of tissue, e.g. blood, sputum or bone marrow.

#### Treatment:

Two drugs are available for treatment of blastomycosis, amphotericin B and 2-hydroxystilbamidine. Amphotericin B is the drug of choice in treatment of blastomycosis, especially in acutely ill patients with severe rapidly progressive disease. According to some authors 2-hydroxystilbamidine is nearly as effective but is less toxic than amphotericin B. Both drugs are given intravenously over a period of weeks until 2 grams amphotericin B or 8 - 10 grams 2-hydroxystilbamidine have been given.

In our series<sup>8</sup> of 15 patients, 10 received amphotericin B intravenously. A 33 year old female was treated for pulmonary tuberculosis but her progress was unsatisfactory (See Figure 6). Sputum was negative for tubercle bacilli and for fungus infection. However, lung biopsy

showed a granulomatous inflammation with *Blastomyces dermatitidis*. She received a course of amphotericin B with improvement (See Figure 7). Nine patients were discharged and in follow up clinic later were well, the tenth died. Four patients received 2-hydroxystilbamidine intravenously with success, one was treated with potassium iodide in 1949.

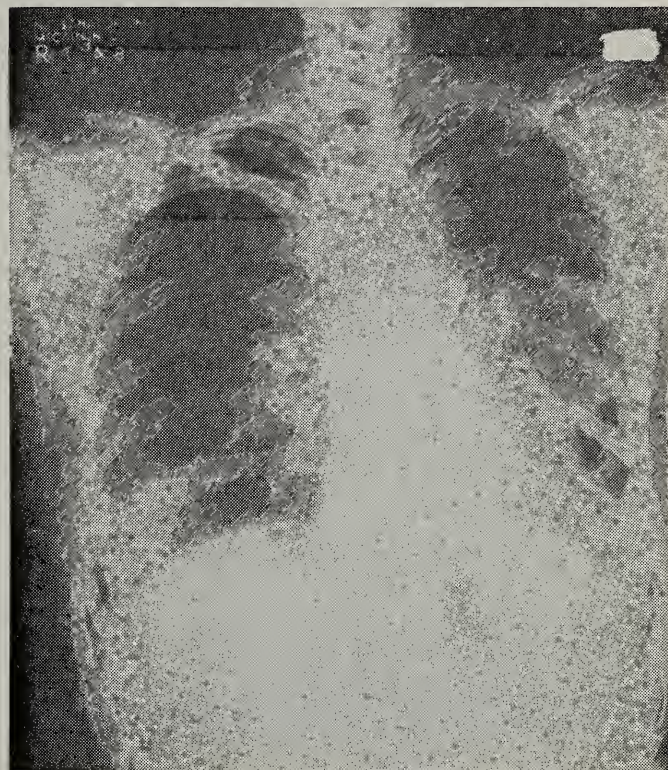


Figure 7.

Chest film 5.10.62 shows clearing of density in right lung and a large cyst in left upper part following course of amphotericin B.



Figure 6.

Chest film 12.6.61 shows infiltrations involving both lungs, especially left lung. There is a cavity in left upper part.

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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



J. W. DONAHOE, M.D.\*  
*Internist - Discussor*

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*Pathologist - Editor*

## SIXTY-FIVE YEAR OLD FEMALE WITH AURICULAR FIBRILLATION AND SUDDEN ONSET OF COMA

### CASE NO. 493594

This 65-year old Caucasian female was admitted to Sioux Valley Hospital on 7-25-69 in coma.

The patient's first admission had been six years previously for progressive intermittent epigastric pain of two months duration associated with nausea and vomiting. Physical examination at that time showed a blood pressure of 130 systolic and 80 diastolic. The left cardiac border was at the midclavicular (left) line in the 5th intercostal space. The heart tones were regular and of good quality. A<sub>2</sub> was greater than P<sub>2</sub>. There were no audible murmurs. There was exquisite point tenderness in the midepigastrium but no other organs or masses. There were no other significant physical findings.

**Clinical pathology data:** Urinalysis: amber, clear, specific gravity 1.015, pH 6.0, negative for protein, glucose, sediment 0-2 leukocytes/hpf, hemoglobin 15.2 gm/100 ml., hematocrit 49 Vol.%, mean corpuscular hemoglobin concentration 32 micromicrograms, total leukocyte count 8,800 with 68% segmented neutrophils, 1% neutrophilic bands, 1% eosinophils, 23% lymphocytes and 7% monocytes. A serology was nonreactive. Erythrocyte sedimentation rate was 5 mm/hr. Blood urea nitrogen was 10 mgs/100 ml. An upper gastrointestinal series demonstrated a duodenal ulcer in the bulb. The patient responded to an ulcer regimen and was discharged.

The patient was next admitted on 12-17-65. She had been in good health until one week

before entering the hospital when she developed "flu-like" symptoms. Three days before admission she noted palpitations and sensation of fatigue and shortness of breath. Physical examination revealed a well developed, well nourished normal appearing white female who was apprehensive and nervous. The blood pressure was 140 systolic and 70 diastolic, pulse was grossly irregular at 140/minute. There was no neck vein distention or other abnormalities of the head and neck. The lungs were clear to auscultation and percussion. The left cardiac border was slightly to the left of the midclavicular line in the 5th intercostal space. The heart tones were grossly irregular with an apex rate of 140/minute. A<sub>2</sub> equalled P<sub>2</sub>. There were no audible murmurs. The liver was not palpable but there was tenderness in the right upper quadrant.

**Clinical pathology data:** Urinalysis: straw, clear, specific gravity 1.027, pH 5.0, protein 1+, negative for glucose; sediment 1-3 leukocytes/hpf, 3-5 hyalin casts/lpf, hemoglobin 14.4 gms/100 ml., total leukocyte count 6,100 with 70% segmented neutrophils, 4% eosinophils, 1% basophils, and 25% lymphocytes. Platelets were adequate on smear. The red cells were normochromic, normocytic. Atrial fibrillation was confirmed on electrocardiogram.

The patient was admitted for cardioversion after digitalization. After a second discharge the patient developed a normal sinus rhythm. In the evening the patient developed sudden pain, numbness and coldness in the right leg below the knee. 5.0 cm. below the knee a sharp reddish dusky color appeared after initial pallor. On elevation the area blanched. There were absent pulses below the femoral. As she was being prepared for surgery, the pain disappeared and the pulses returned. She was discharged. She had reverted to auricular fibrillation after 2 days following cardioversion.

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The patient was next admitted one and one-half years prior to her final admission with pain, discomfort and tingling in the right calf, shortness of breath and inability to gain weight. This was progressive over the several months prior to admission and was increased by exercise and relieved by rest. In addition, the symptoms became somewhat more exacerbated since she had had an infected tooth extracted. Pulse was 76/minute and grossly irregular, respirations 20/minute, temperature 98° F. Blood pressure 180 systolic, 92 diastolic. The lungs were clear to auscultation and percussion. The heart was normal in size. There was a blowing systolic murmur over the aortic area without a diastolic component. The rhythm was grossly irregular with a distinct pulse deficit. There was a generalized rash. Abdominal examination was unremarkable. The spleen was not palpable. Both lower extremities were thin. The dorsalis pedis and posterior tibial pulses were absent bilaterally. The femoral pulses were present and equal. There was definite pain in the calves on walking.

**Clinical pathology data:** Urinalysis: straw colored, cloudy, specific gravity 1.016, pH 5.5, negative for protein, hemoglobin, sugar, ketone bodies, sediment 10-15 leukocytes/hpf, hemoglobin 14.4 gm/100 ml. total leukocyte count 9,300 with 71% segmented neutrophils, 3% bands, 1% eosinophils, 25% lymphocytes. The smear was normal. Erythrocyte sedimentation rate was 14 mm/hr. Fasting blood sugar was 94 mgs/100 ml., blood urea nitrogen 10 mgs/100 ml., creatinine 1.0 mgs/100 ml., cholesterol 190 mgs/100 ml., bilirubin 0.65 mgs/100 ml. total with 0.25 mgs/100 ml. direct. Resin triiodothyronine uptake 35% (normal 24-36%). Multiple blood cultures revealed no growth in 4 weeks. A throat culture revealed normal flora. The electrocardiogram showed atrial fibrillation and left ventricular hypertrophy with T and ST segment changes involving both myocardial surfaces partially on basis of left ventricular hypertrophy but also on the basis of ischemia. Admission febrile agglutinins to salmonella, brucella, and tularemia: proteus OX2 and proteus OXK were negative. Proteus OX19 titer was 1:320. Repeat titers to proteus organisms OXK, OX2 and OX19 showed no change. *Escherichia coli* (over 100,000 colonies/ml.) was grown from the urine.

The patient was next admitted on 7-9-69 for nausea, vomiting and abdominal pain. Blood pressure was 154 systolic and 90 diastolic, respirations 20/minute, pulse 98/minute and irregular, temperature 98°F. There was no change

in physical findings. No cardiac murmurs were heard.

**Clinical pathology data:** Urinalysis: amber, turbid, specific gravity 1.024, pH 6.0, 1+ proteinuria; negative for glucose; moderate ketone bodies; trace hemoglobin, sediment 75-100 leukocytes/hpf, many bacteria; 0-1 erythrocytes/hpf. Hemoglobin 18.3 gms/100 ml., hematocrit 52 Vol.%, mean corpuscular hemoglobin concentration 35%, total leukocyte count 13,600/mm<sup>3</sup> with 83% segmented neutrophils, 2% neutrophilic bands, and 15% lymphocytes. The smear was normal. Erythrocyte sedimentation rate was 5 mm/hr. Blood urea nitrogen was 14 mgs/100 ml. Stools for occult blood were negative. Stools for ova and parasites and cultures for enteric pathogens were negative. A urine culture grew *Escherichia coli* over 100,000 colonies/ml. An upper gastrointestinal series showed outlet obstruction in the duodenum. She was treated with antispasmodics, nasogastric suction, probanthine, gelusil and digitoxin.

Her last admission was one week later on 7-25-69 to the Emergency Ward for coma. On the day of admission her right arm became stiff. She began shaking on the right side of her body and had a generalized seizure after which she became apneic and had to be ventilated. Horizontal nystagmus on one side started. Initial blood pressure was 210/140. She was given 2.5 mgs serpasil and shortly after blood pressure became unobtainable and she developed pallor, cyanosis and coldness in her left upper extremity. A spinal tap revealed clear fluid with an opening pressure of 95 mm of Hg. She was given I.V. Ureaphil and started on papaverine and anticoagulation. She was transferred to the Special Care Unit.

The remainder of the physical examination showed temperature of 97°F, respirations 20/minute, and unobtainable blood pressure. She did respond to verbal questioning a few hours later. There was pallor and coldness of all extremities, more marked on the left. The pupils were round and equal and normal size with slight response to light. The discs were flat. The lungs were clear to auscultation and percussion. Pulse was felt on the right radial artery. Femoral pulses were 4+ bilateral and carotid pulses 3+. The point of maximum intensity of the heart was shifted to the left and prominent. The rhythm was irregularly irregular. There were no murmurs. Abdominal examination was unremarkable. The plantar responses were extensor bilaterally. The right extremities moved poorly.



The stretch reflexes were more active on the right than on the left.

**Clinical pathology data:** Urinalysis: clear, specific gravity 1.010, pH 5.0, 1+ proteinuria, trace glucosuria, trace ketonuria, negative for hemoglobin. Sediment 40-50 leukocytes/hpf, 0-2 erythrocytes/hpf, Hemoglobin 15.0 gms/100 ml., hct. 44 Vol.%, mean corpuscular hemoglobin concentration 34%, total leukocyte count 28,500 with 74% segmented neutrophils, 9% neutrophilic bands, 1% eosinophils, 15% lymphocytes, and 1% monocytes. The red cells were normochromic normocytic. The platelets appeared adequate on smear. There were no cells in the spinal fluid. Protein was 20 mgs/100 ml., sugar 72 mgs/100 ml., culture of spinal fluid revealed no growth, carbon dioxide content 14 meq/L., sodium 144 meq/L., potassium 2.9 meq/L., chloride 100 meq/L., pH 7.44, PCO<sub>2</sub> 21 mm. of Hg., PO<sub>2</sub> 81 mm. of Hg., O<sub>2</sub> saturation 96%. Chest film showed possible cardiomegaly and mild vascular congestion. ECG showed atrial fibrillation, left ventricular hypertrophy and possible posterior infarction. She died one day after admission.

DR. DONAHOE: This is a long protocol but I think we can summarize it. The patient's first admission was characterized by the signs and symptoms of a probable duodenal ulcer. There is a possibility, since a small bowel series was not done, that a carcinoid of the small bowel with secondary heart involvement was present. However, I doubt it. She responded to the treatment for duodenal ulcer and was discharged.

Approximately two years later the patient was admitted with "flu-like" symptoms. She had a normal blood pressure and a grossly irregular pulse with pulse deficit which strongly suggested auricular fibrillation. There was no neck vein engorgement and no enlarged liver, but there was some tenderness in the right upper quadrant. I imagine the patient had some early congestive failure as well as auricular fibrillation at this time. The latter was confirmed on electrocardiogram. The reason that I feel the patient was in failure was the dyspnea, proteinuria without other findings in the urinary sediment, fatigue, and tenderness in the right upper quadrant. Carcinoid heart disease or hyperthyroidism could be the cause of the auricular fibrillation, but I am going to presume that the arrhythmia is due to arteriosclerotic heart disease.

The patient underwent cardioversion after digitalization. There is no mention of the pa-

tient having been anticoagulated prior to this. The auricular fibrillation disappeared for a while after cardioversion but reappeared two days later. This, unfortunately, is a common sequence after cardioversion. After cardioversion the patient developed what was probably an embolus to the leg, but just as the surgeon was sharpening his knife, the pulses returned and no surgery was necessary. I assume that the artery had gone into spasm and that the embolus later passed as the spasm relaxed. Then, the embolus went on down to a smaller vessel in the leg.

Three years later the patient came back into the hospital with pain in the right calf, shortness of breath, and inability to gain weight of some months duration, the recent onset of a rash and probably fever (since febrile agglutins were ordered). There is no definite mention of temperature elevation. She had her first evidence of hypertension on this admission. To complicate the picture she had had the removal of an infected tooth prior to admission. She still had atrial fibrillation and she had a murmur for the first time. This was not diastolic but systolic. We must consider subacute bacterial endocarditis under this set of circumstances. However, the patient does not have anemia, an elevated white count, or an elevated sedimentation rate. Multiple blood cultures were negative. I think that the patient probably did not have bacterial endocarditis. The presence of a rash and an elevated proteus OX19 suggests the possibility of typhus. There is no evidence of contact with typhus and I do not know where the patient lived. I would suspect that the elevated titer is simply a red-herring. I might point out that she had evidence of a urinary tract infection, which she continued to have throughout the rest of her life. She evidently improved because she was discharged.

She was admitted again — this time with nausea, vomiting, and abdominal pain and a somewhat lower blood pressure. She continued to have auricular fibrillation. The bacteriuria, proteinuria, and pyuria persisted. She had a slightly elevated white count. I think that the high white count could be explained as due to her urinary tract infection. The BUN was never elevated. I think the abdominal symptoms she had were due to an obstructed gastric outlet due to her chronic duodenal ulcer. The usual measures brought about relief of these abdominal symptoms. She was discharged only to return one week later for her terminal admission with coma. I assume that this coma was rather sud-



den in onset. Therefore, I suspect a vascular catastrophe in the cerebral circulation. The spinal fluid was not remarkable. Her blood pressure which was markedly elevated on admission had dropped to 0. I assume it stayed at zero until demise. She had good femoral and carotid pulses. She continued to have atrial fibrillation and had an enlarged heart. The high white count might suggest a bacterial infection, but there was certainly not a meningitis since there were no cells in the spinal fluid.

In seeking the cause of this patient's auricular fibrillation, I see no evidence for rheumatic heart disease. I do not think she had hyperthyroidism. I think she had arteriosclerotic heart disease which caused the auricular fibrillation and that her central nervous symptomatology was due to emboli from the heart due to the auricular fibrillation. I do not think her duodenal ulcer had much of a part to play. She could have had a perforated ulcer terminally, but I doubt this. Multiple emboli are certainly a frequent problem in people with auricular fibrillation. I'm sure that this patient had auricular fibrillation for a long period of time, perhaps intermittently, and may have had it for some time before her cardioversion.

\*DR. JONES: The patient did have a normal sinus rhythm on her first admission six years previously.

DR. DONAHOE: Yes, but she did have auricular fibrillation a long period of time. The patient could have had a subacute bacterial endocarditis as a cause of her emboli, but I doubt it. I cannot support the diagnosis of hyperthyroidism or carcinoid heart disease. Periarteritis nodosa should be considered, but I have no evidence for that diagnosis.

#### DR. JACK DONAHOE'S DIAGNOSIS

1. Arteriosclerotic Heart Disease With Auricular Fibrillation
2. Emboli to Brain and Lower Extremities from Thrombi in Left Atrium
3. Urinary Tract Infection
4. Chronic Duodenal Ulcer, Not Perforated

\*\*DR. LAURENS WILLIKES: I wonder if the initial hypertension during the last admission was not due to the emboli to the kidney. I also feel that we should more strongly consider bacterial endocarditis or even a myocarditis.

DR. DONAHOE: I did consider an endocarditis

on one admission, but think that the hypertension in the last admission was probably due to her general condition. She probably did have emboli into the kidneys as I'm sure she had showers of emboli from her auricular fibrillation.

\*\*\*DR. WILLIAM O. ROSSING: You are making a diagnosis of arteriosclerotic heart disease in the absence of a history of angina pectoris or of an old myocardial infarction. This would be somewhat contrary to the criteria of the American Heart Association.

DR. DONAHOE: Yes, this is true. However, I have a great deal of difficulty making a diagnosis of rheumatic heart disease without a murmur. If rheumatic heart disease were present, I would think it would be mitral disease.

†DR. EVERETT SANDERSON: I am a little suspicious, as is Dr. Willikes, of the diagnosis of bacterial endocarditis. However, I have to agree with Dr. Donahoe in his diagnosis and I would also support the diagnosis of arteriosclerotic heart disease even in the absence of angina pectoris or a previous myocardial infarction. I think we see cases like this rather frequently. An atrial myxoma might be a possibility also, but I have not got much to support it.

DR. DONAHOE: No, we only have a history of one transient systolic murmur.

DR. ROSSING: I am sure you can make the diagnosis of arteriosclerotic heart disease in the absence of previous myocardial infarction or angina pectoris. However, you have no more basis of making that diagnosis in this case than rheumatic heart disease without a murmur. I am just talking about the certainty of diagnosis and we cannot be certain of either arteriosclerotic or rheumatic heart disease in this case.

DR. DONAHOE: I could also suggest that the patient might have had a myocardial infarction terminally.

\*DR. WALTER K. SOSSEY: I think that the times when the patient had an elevated white count were all times when she either had a urinary tract infection or some severe stress such as a convulsion. I also think the hypertension on the last admission could have been due to cerebral edema.

DR. DONAHOE: I might also mention that the

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\*\*Intern, Sioux Valley Hospital.



patient could have had a long standing pyonephrosis and this could have been the explanation for her urinary tract findings and also a source of bacterial endocarditis. This is unlikely. Give me the bad news, John!

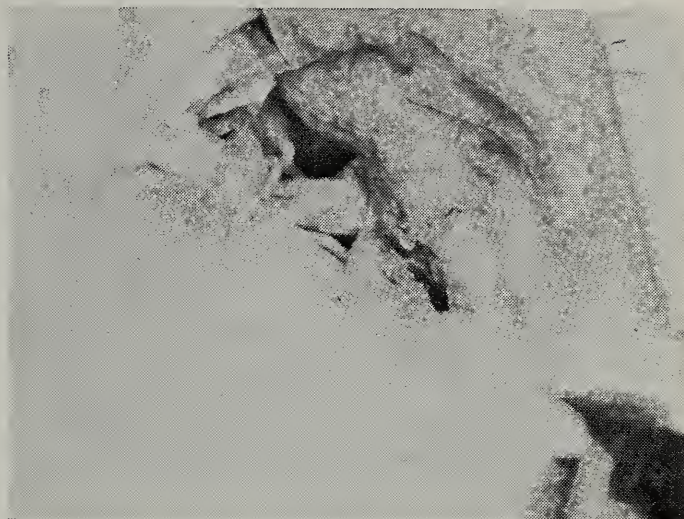
### **PATHOLOGIC FINDINGS**

DR. BARLOW: I remember very well presenting a case like this at cardiology grand round at the Massachusetts General Hospital. I think the striking thing about this case is that there was severe mitral stenosis with marked calcification of the valve cusps, and yet there was no murmur clinically. There were adherent thrombi in the left auricular appendage which gave rise to many emboli. The whole right cerebral hemisphere showed infarction. There was also infarction of small areas in the right cerebral hemisphere and left occipital lobe. There were healed renal infarctions as well as a healed splenic infarct. There was focal bronchopneumonia. In the heart in addition to the mitral stenosis and thrombi in the atrial appendage, there was moderately severe anterior descending left coronary atherosclerosis. There was a small anterior wall healed myocardial infarction as well as a recent myocardial infarction of 1-3 days duration in the same area. The patient indeed did have a chronic duodenal ulcer.

### **FINAL ANATOMIC DIAGNOSES**

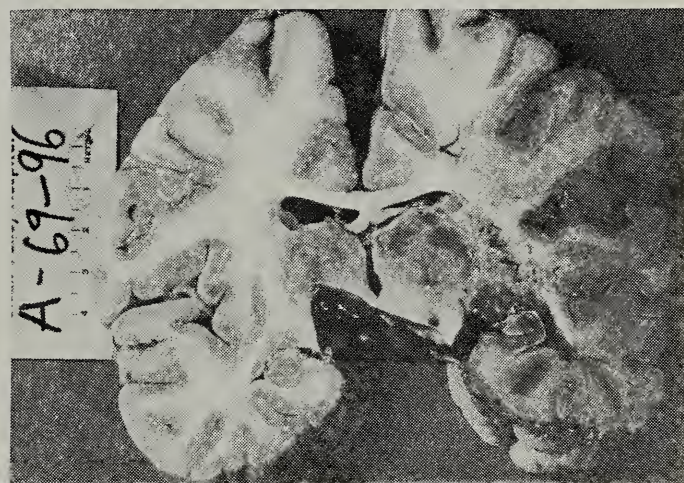
1. Mitral Stenosis With:
  - A. Myocardial Hypertrophy (480 Grams) and Dilatation
  - B. Mural Thrombus, Left Auricular Appendage With:
    - (1) Recent Thromboemboli to Brain Resulting In:
      - a. Infarction of Right Cerebral Hemisphere
      - b. Focal Infarction of Cerebellum
      - c. Infarction of Part of Left Occipital Lobe
    - (2) Organizing Splenic Infarct
    - (3) Healed Renal Infarcts
2. Bronchopneumonia With Focal Microabscess Formation
3. Atherosclerosis of Anterior Descending Branch of Left Coronary Artery With:
  - A. Healed Anterior Wall Infarct (1-3 Days Duration)
  - B. Recent Anterior Wall Infarct, Small
  - C. Fibrous Pericardial Adhesions
4. Acute Renal Tubular Necrosis
5. Chronic Duodenal Ulcer
6. Moderate Arterial Nephrosclerosis

7. Mild Arteriolar Nephrosclerosis
8. Hemorrhagic Cystitis
9. Aortic Atherosclerosis, Mild
10. Fibrous Pleural Adhesions, Left



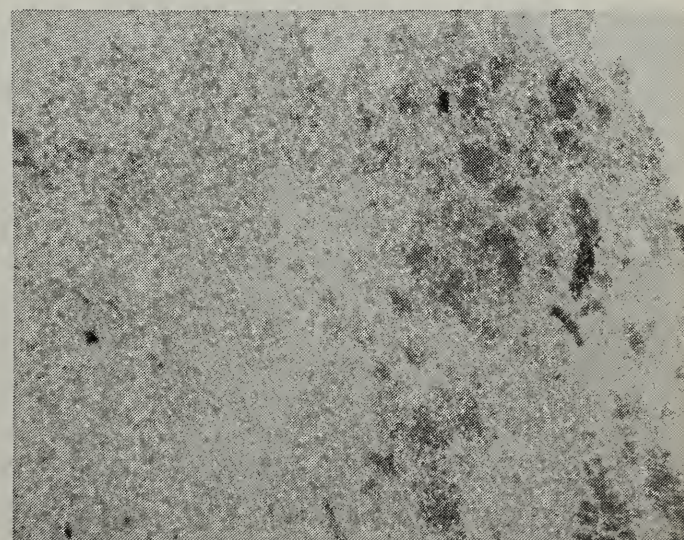
**Figure I.**

So-called fishmouth deformity of severe mitral stenosis as viewed from left atrium.



**Figure II.**

Hemorrhagic infarct on right of picture from cerebral embolus probably secondary to left atrial thrombus.



**Figure III.**

Microscopic of hemorrhagic infarction of brain.  
(Continued on following page)



DR. DONAHOE: What is the significance of the high proteus OX19 titer?

DR. BARLOW: This particular test using proteus OX19 organisms is often called the Weil-Felix reaction. Titers to proteus OX19, OXK, and OX2 are commonly used in the diagnosis of rickettsial disease. This can be done because these particular strains of proteus organisms share antigens with the rickettsia. A big problem, of course, is the nonspecificity of the reaction. Obviously, proteus or other gram negative enteric bacillary infections will also cause a rise in titer of these antibodies since these organisms may possess the antigens mentioned. I think in this case although the patient had a high titer, there was no rise or fall in a subsequent titer. What is more a gram negative infection was present. This would tend to make one believe that there was no rickettsial disease giving rise to this antibody response.

DR. ROSSING: Do you think that the valvulitis in this case could have been due to arteriosclerosis and not due to rheumatic fever? In other words, is there a point at which the differential between rheumatic heart disease and arteriosclerotic valve disease is not distinguishable?

DR. BARLOW: I think that the involvement of the valve was definitely rheumatic. There is arteriosclerotic disease causing calcification of the mitral annulus, but on an arteriosclerotic basis.

\*DR. FREDRICKSON: What did the aortic valve look like in this case?

DR. BARLOW: The aortic valve was normal.

DR. DONAHOE: What is the incidence of arterial emboli in a patient who has had mitral commissurotomy and is still fibrillating?

DR. JONES: I would think it would be very high. I feel that Dr. Donahoe did well in his discussion of this CPC for what information appeared in the protocol. In fact, I did not do better than he even though I examined and observed this patient many times during the last few years of her life. I make these comments for whatever consolation it might be for our discussant today. There are cases of this sort in which one tries to re-analyze on retrospect his way of thinking in order to ascertain whether or not he had really overlooked something that he ought to have found, and to see whether or not the treatment rendered might have been materially different had he been the wiser.

Therefore, I have a few comments to make at this time relative to several features of this case.

First of all, atrial fibrillation is a rhythm disturbance that usually occurs in the presence of underlying heart disease. Statistically, the chances are approximately 90% as opposed to 10% that the patient has underlying heart disease. The three most common causes for atrial fibrillation are: 1) Arteriosclerotic heart disease 2) Mitral stenosis and, 3) Hyperthyroidism. The latter is unlikely in this case, and mitral stenosis certainly is not diagnosable on the basis of protocol information, so that Dr. Donahoe's diagnosis of arteriosclerotic heart disease is certainly the most likely on the basis of these statistics.

The second point is the fact that this lady had one and probably many arterial emboli. Arterial emboli usually arise from thrombi in the left atrium. Of a series of 1,200 patients<sup>1</sup> with mitral stenosis, almost one third had experienced a systemic arterial embolism before mitral commissurotomy. Among those patients with mitral stenosis, but with a sinus rhythm, in this series, the history of embolism was obtained in only 9.6%. To further amplify the high incidence of arterial embolization in patients with mitral stenosis and atrial fibrillation, a study by Daley and co-workers<sup>2</sup> reported that 90% of the embolizations that occurred in patients with mitral stenosis was with associated atrial fibrillation. It was their conclusion that in patients with mitral stenosis and a sinus rhythm, arterial embolization is relatively rare.

Now, in order to reconcile the presence of a tight and severe calcific mitral stenosis without

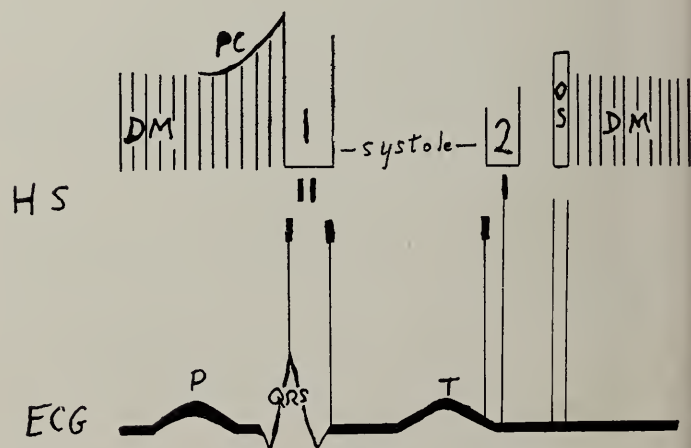


Figure IV.

Shows relationship between the heart sounds (HS) and the electrocardiogram (ECG) and the components of the auscultatory findings in mitral stenosis: The diastolic murmur (DM), presystolic crescendo (PC), and the opening snap (OS) of the mitral cusps.

\* Intern, Sioux Valley Hospital.



the usual auscultatory findings as found in our patient, let us first review the usual auscultatory findings in any patient with mitral stenosis. Referring to figure I, one will note that ordinarily there is a loud amplified M-1, a normal M-2, an opening snap occurring from 0.08 to 0.11 seconds after the 2nd heart tone, and a diastolic rumble during the remainder of diastole with a presystolic crescendo.

These findings are characteristically obtained with the patient in the recumbent position, and listening carefully at the apex with the bell chest-piece. The more stenotic the mitral valve and the greater the pressure differential between the left atrium and left ventricle during ventricular diastole, the greater the velocity blood flow and the louder the diastolic rumbling murmur. The presystolic crescendo is created by the increase in velocity blood flow across the mitral valve at the time of atrial systole. Now, in this patient with atrial fibrillation, atrial systole is noticeably absent, and therefore the presystolic crescendo would not be heard. It is stated that the diastolic murmur diminishes in intensity and may become inaudible when there is a very marked reduction in cardiac output, and consequently a change in the hemodynamics across the mitral valve. It may have been these hemodynamic changes that helped to create a "silent" mitral stenosis in this case. In addition, the opening snap is created by the inordinate pressure gradient between the left atrium and left ventricle. This must be present in order to flex the rigid diseased mitral cusps. The opening snap tends to disappear with increasingly significant mitral regurgitation. It is also likely to be absent when calcification of the valve cusps is extensive enough to produce completely rigid cusps. Therefore, one might account for the absence of the opening snap in this case, which might otherwise have been a helpful auscultatory finding. On these bases, therefore, one might account for the possibility of the mitral stenosis without the usual auscultatory findings as was the case in this patient.

Antemortem, I had come to the same diagnostic conclusions as Dr. Donahoe in his post-mortem analysis of this case.

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# MEDICAL ASSOCIATION

The annual symposium of the medical staff of the Sioux Valley Hospital was held in Sioux Falls on November 13 and 14. The theme of this year's symposium was "Stroke — Its Diagnosis and Treatment." Guest speakers included Adolph Sahs, M.D., Chairman of the Department of Neurology, University of Iowa; John Kennady, M.D., neurosurgeon from the University of California and John Quast, M.D. from St. Joseph's Hospital in Minneapolis. **John F. Barlow, M.D.**, Sioux Falls, was chairman of the committee which organized the program. Other supporters of the symposium were the South Dakota Regional Medical Program, the South Dakota Heart Association, and the South Dakota Chapter of the American Academy of General Practice.

\* \* \*

The Yankton Diabetes Detection Drive is being headed by **R. I. Porter, M.D.** Free diabetes tests were given during Diabetes Week which was November 15-21.

**J. C. Smiley, M.D.**, 66 year old Deadwood physician, died recently following a brief illness. Dr. Smiley graduated from Rush Medical College in 1930. Following his internship and residency training he established his practice in Deadwood and has been there for the past 36 years. Dr. Smiley is survived by his widow and a brother, **R. A. Smiley** of Deadwood.

**F. E. Manning, M.D.**, died at age 78 in Custer. Dr. Manning graduated from Creighton University Medical School in 1915. He practiced in Custer from 1926 to the time of his death. He served as county health officer for more than 40 years, as coroner for 10 years, on the school board for 14 years, as mayor of Custer for 4 years and as a legislator for Custer and Fall River counties for 6 terms. Dr. Manning is survived by his widow, Lucile, a son, Donald Manning, M.D., Sioux Falls, and a daughter, Mrs. Albert Triplet of Tucson, Arizona.

**R. A. Buchanan, M.D.**, Huron, spoke to members of the Jerauld County Extension Club concerning Jerauld County's participatory status in the Central South Dakota Mental Health Center.

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The Dakota State College Scholarship fund was presented a two-story frame home by **J. R. Westaby, M.D.**, Madison.

\* \* \*

**W. F. Stanage, M.D.**, Yankton, has been named by President Nixon to serve as a delegate to the White House Conference on Children.

\* \* \*

Two Yankton physicians appeared on the scientific program of the American College of Obstetrics and Gynecology held in St. Paul, Minnesota. **Brooks Ranney, M.D.** presented a paper on "Endometriosis — Hereditary Tendency," and **David Holzwarth, M.D.** participated in a roundtable on "Surgical Sterilization" and presented one of three papers on this subject.

\* \* \*

Featured speakers at the Cancer Conference for Nurses held in Huron included **B. T. Lenz, M.D.**, Huron, president of the South Dakota Division of the American Cancer Society, and **James Vose, M.D.**, Mitchell, Chairman of the American Cancer Society Service Committee.

**Charles L. Combe, M.D.**, 38, assistant professor of pathology at the University of South Dakota, died following a car accident near Vermillion. He is survived by his widow, Margaret, two sons, Charles, 5, and Robert, 2, and a daughter, Teresa, 1 month.



**Karlis Zvejnieks, M.D.**, Aberdeen, spoke to members of the Corona Community Club on the hardships of the Russian civil war and the communist atrocities.

\* \* \*

**Arthur Semones, M.D.**, director of the Homestake Hospital staff, participated in

a panel discussion on drug use and abuse which was held in the Lead High School.

\* \* \*

**Bruce Lushbough, M.D.**, Brookings, was elected the 65th president of the University of South Dakota Alumni Association at its annual meeting.

Professional dieticians attending the 21st annual meeting of the South Dakota Dietetic Association heard **Robert Hayes, M.D.**, state health officer, put forth "A Plan for Action" relating to "The Health Crisis in South Dakota."

# **MINUTES OF THE COUNCIL MEETING SOUTH DAKOTA STATE MEDICAL ASSOCIATION**

**December 5, 1970**

**Cataract Hotel, Sioux Falls, South Dakota**

The meeting was called to order at 1:45 p.m. by Dr. Harvard Lewis, Chairman of the Council. Present for roll call were the following physicians: J. A. Muggly, G. Robert Bartron, W. R. Taylor, A. P. Reding, R. H. Quinn, G. E. Tracy, Fred Leigh, H. R. Lewis, E. T. Lietzke, and E. T. Ruud.

Dr. Taylor moved that the minutes of the September meeting be approved as published in the Journal. The motion was seconded by Dr. Ruud and carried.

A discussion of the proposed budget for the School of Medicine was held. Dr. Tracy moved that the Council be in favor of urging the adoption of the 1972 fiscal year budget for the Medical School as submitted by the University of South Dakota by the State Legislature. The motion was seconded by Dr. Ruud and carried.

Dr. Tracy reported on the meeting of the Commission on Medical Service which had been held that morning.

To: COMMISSION ON MEDICAL SERVICE  
From: FACULTY, UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE  
Subject: THE FUTURE OF MEDICAL EDUCATION IN SOUTH DAKOTA

Although the possibility of establishing a four-year school has been considered several times in the past, the grinding necessity of adequate financing for our two-year school continually pushes this into the background. I am sure you are all aware that last year's appropriation for the Medical School would never have been obtained without the solid backing of the Medical Association.

A number of actions and events, recently, on the local, regional, and national scene have again focused the attention of the faculty upon the future of the University of South Dakota School of Medicine, and medical education in South Dakota.

The most immediate and pressing concern has to do with N.A.M.E. There are several people present who are more knowledgeable than I regarding N.A.M.E.; but, briefly, this is an attempt to form a regional medical school in St. Paul. They would use St. Luke's Hospital in St. Paul as a central, or core, hospital, and then use other hospitals and doctors' private practices in the region as ancillary teaching units. No school can start without money, and so they want to enter into compacts with adjacent states to finance it. To begin with, this would be a medical school for only the last two years, much as Rush Medical School was many years ago. The initial amount is not clear to me, but I have heard figures between 200,000 and 400,000 dollars from each state. In addition to some preliminary meetings in St. Paul, Dr. Davitt Felder has recently met with the South Dakota Board of Regents. An additional and very disturbing rumor is that there are those who would like to get rid of the medical school, completely, because of the money it costs. The faculty of the Medical School is concerned that such a compact will be brought up during the next session of

the legislature; and this is the reason for calling this special meeting of the Commission on Medical Service. Thus far, at least, the Medical Association, the Medical School faculty, and those knowledgeable about medical education, have not been consulted by the Regents, Mr. Gibb, or the Governor.

On the national and regional scene, there are fast-moving developments:

1. The Carnegie Foundation's Commission on Higher Education report (a second Flexner-type report) which has recently been released, will have profound and far-reaching effects upon medical education in this country. From this report, plus the growing demands of the people, plus the attitude of H.E.W., it is apparent that academic excellence is a luxury that we can no longer afford, and perhaps, realistically, a doctor should not be expected to absorb all of the new medical information. Without going into detail, it is their recommendation that medical school and residencies be shortened by one year each. Additionally, they recommend that the doctor going into research or academic teaching branch off after the second year of medicine.
2. Medical school curricula have already changed radically, and the isolated internship, as such, will be gone by 1975. At this time, the fourth year of medical school is actually the same as the rotating or mixed internship that most of us knew. Therefore, a repetition of this type of training is already redundant.
3. Dr. Walter C. Bornemeier's inaugural address to the American Medical Association should not be ignored, as he is the spokesman this year for organized medicine. Briefly, he would do away with the large medical center concept of graduate training, and disperse young doctors about the country as preceptees.
4. We do have some existing guidelines which point to the future:
  - a. The existing Indiana Program
  - b. The new Michigan State Program
  - c. The planned new University of Missouri, at Kansas City, is a radical departure from present norms of medical school curriculum.
5. In my opinion, the existing Family Practice Residency will not work. The time (3 years) is too long, and the curriculum too rigorous. Those of you who have studied the Family Practice Residency Programs, I am sure would agree with me, that if I were a medical student it would terrify me, and for the same amount of time I could go into one of the specialties. There is currently a revolution brewing among the California A.A.G.P.

With the foregoing as a preamble, and to avoid the position of being negative regarding the compact with N.A.M.E., the Clinical Faculty would like to make a positive recommendation to the doctors and the people of South Dakota. We do not think it is unrealistic, with the foregoing points of reference, to plan for complete medical education in South Dakota. With the pressures to establish Health Training Centers for all health-related programs, the only way that we can possibly retain doctors and related personnel in South Dakota is to train them here. The



financing of the following proposal I must leave to others; but if we are talking about \$200,000-\$400,000 for a compact with N.A.M.E., with the same amount of money we can get a complete medical training program for doctors started, and if H.E.W. and the Carnegie Report mean what they say, there should be federal money available, also. We cannot do it with the present personnel. You are all aware of the demands of private practice; and although many have given generously of their time and energies to teach at the Medical School, the additional time it would take to teach and supervise third and fourth-year medical students is a practical impossibility; and yet, we have a nucleus that could do the job if there were full-time men to direct and coordinate our activities. Already, there are two internships in Sioux Falls, and residencies in Obstetrics & Gynecology and General Surgery in Yankton. I can tell you from long experience that it is easy to incorporate undergraduate teaching into an existing graduate program. Our summer clerks and former students who have returned for an elective quarter in their fourth year would testify to the fact that it works well, and meshes with the curriculum of their school.

Therefore, the faculty would propose that a pilot program for complete medical education in South Dakota should be considered. If the legislature would make a special appropriation for a full-time staff, if federal aid were available, if the Council on Medical Education, and the Association of American Medical Colleges would give provisional approval, and if Sacred Heart Hospital, McKennan Hospital, and Sioux Valley Hospital and staffs would agree to participate, we could certainly start with a pilot group of 16 to 24 of our own students. These hospitals already have graduate programs and part-time Directors of Medical Education. Then, if the pilot program worked, and additional financing were made available, other areas of the state could be incorporated into the program for handling all of our medical students. If the above suggestion would prove too cumbersome to begin with, we could start a pilot program with 8 students at Sacred Heart Hospital and call upon the Sioux Falls hospitals or other hospitals in the state to help us in areas of training in which we are deficient. With developments on the national scene, I think now is the time to expand our school, and the matter is most urgent.

You will remember that Bob Hayes proposed a preceptor-type program several years ago. I was unalterably opposed to it, because I thought it would produce second-class doctors. However, gentlemen, and as the Carnegie Report makes clear, the American people can no longer afford the luxury of academic excellence for every physician.

With the fading out of the internship as such, we must not only provide a complete medical school which may eventually be just three years, but provide graduate training in the specialties, and especially in some type of Family Practice. That internships and residencies can work in South Dakota has been proved; and in line with the foregoing, other areas in the state should plan for graduate training. They cannot do it, though, without teaching affiliation with the Medical School. I have briefly outlined a future for Medical Education in the State of South Dakota. I believe it is desirable, possible, and much better than out-of-state alliances. The future of Medicine in South Dakota depends upon us — the doctors of South Dakota. Let us not be the victims of political expedient.

Respectfully submitted,  
C. B. McVay, M.D., Ph.D.  
Clinical Professor of Surgery and  
Associate Professor of Anatomy  
University of South Dakota School of Medicine

University of South Dakota School of Medicine  
**PLANNING FOR AN EXPANDED MEDICAL  
EDUCATION PROGRAM**

There continues to be great concern, both locally and nationally, over the growing shortage of health

manpower and the need for improvements in the delivery of health care. Recommendations that this medical school's programs be expanded to meet these needs continue to come from various sources. At the national level, recent recommendations of the Association of American Medical Colleges and of the Carnegie Commission on Higher Education call for increase in the number of medical graduates, shortening of medical training, and greater involvement of medical schools in the systems for providing health care.

The School of Medicine has held back in its planning for expansion in order to concentrate its efforts on obtaining adequate financial support for the current two-year program. An urgent need still exists to strengthen this basic support, inasmuch as we share with all other medical schools the financial problems posed by decreasing support for higher education and withdrawal of federal support for research and other programs. Nevertheless, the pressures continue to mount for action to offset the growing health care crisis especially as it relates to South Dakota. In consideration of this, the Executive Committee of the School of Medicine has concluded that it is now time to formulate more clearly and present some of the plans for expansion of the educational program which we have had under consideration for the past three years. While our major efforts will still be to continue strengthening the two-year program, we recognize its limitations in meeting the long-term needs of South Dakota. Therefore, we consider it essential that new concepts for development of the school be explored. Also, recent developments in medical education and in medical practice provide opportunities which did not exist before for serious study of innovative approaches to a complete medical education program.

One approach, which is presently under consideration, would be to provide a complete course of medical education in South Dakota through expansion of the present clinical instruction program, with eventual extension to incorporate teaching resources throughout the state and region. The curriculum would be designed to incorporate various new approaches in clinical teaching, including the provision of elective courses in various fields of medicine. The emphasis would be on educating the student in the setting of his future practice relationships so as to encourage an interest in providing comprehensive family health care. Such a plan could be carried out in phases, with the first consisting of a "pilot program" for 8 or 12 students who have completed the present two-year program. The remaining sophomore students would transfer as usual to other four-year schools. During the second phase the clinical enrollment could be increased by increments over a period of years to eventually include all of the students entering medical school. There would also be consolidation and any needed restructuring of the curriculum during this period. A third phase would be one of extension of the clinical instruction to incorporate other hospitals and teaching facilities in the state and region. Obviously the various phases would overlap, for it would be expected that concurrently there would be:

- Development and refinement of the program.
- Expansion and extension of clinical instruction.
- Increase in number of clinical students enrolled.
- Reorganization and modernization of the curriculum, with integration of basic and clinical sciences.

In the development of any expanded clinical instruction program attempts would be made to incorporate desirable and practicable aspects of curricular improvements being made at other medical schools. Efforts would be made to shorten the time necessary for the medical degree, to better integrate basic and clinical sciences and medical and premedical instruction, to make greater use of sophisticated communications media, etc. It would be understood that although new concepts would be applied there would also be careful ongoing evaluation of the program with modification made as indicated.



The Administrative Committee of the School of Medicine in December, 1967, recommended eventual establishment of a medical degree-granting program and urged that feasibility studies be made. We believe that the climate in medical education and the pressures for medical manpower make it increasingly important to devote intensive study to this matter. Of course, fundamental to the development of a specific plan for a medical degree-granting program would be strengthening of the present Department of Clinical Instruction and full support of the basic science departments and other fundamental programs of the present two-year medical school. This should include establishment of the long recommended Department of Community Medicine and the development of the school's capabilities to respond to the demands for continuing medical education. For initiating an expanded program, it would be essential to have a department of educational planning and assessment or some other form of planning assistance.

The recommendations of the Carnegie Commission lend immediacy to our planning efforts. The principal goal of the Commission to be achieved by 1980 is "Expansion of the functions of university health science centers so that they can play a central role in coordinating and guiding health manpower education and cooperating with other agencies in the development of improved health care delivery systems in their regions." Other major goals call for development and expansion of programs for physicians and dentists' associates and assistants, for acceleration of medical education, and for integration of basic sciences with premedicine, and of professional education with programs of postgraduate training. It is recommended that medical education be more responsive to the expressed needs of students and more concerned with problems of delivery of health care. In South Dakota, the School of Medicine is identified by the Carnegie Commission as a University Health Science Center which should be developed and expanded, and it is the Commission's goal that area health education centers affiliated with our medical school be established in Rapid City and Sioux Falls by 1980.

In view of the opportunity and the potential which now exists, we believe that plans should be formulated for adapting new concepts in medical education to provide a complete medical degree-granting program in South Dakota. We believe that these developments also provide a strong argument for giving firm support to the present two-year program so as to create a firm foundation for expansion.

G. W. Knabe, M.D., Dean

Dr. Tracy presented the recommendation of the Commission as follows:

The Commission on Medical Service recommends to the Council that the philosophies, goals and concepts of the 1970 USD Medical School program for an M.D. degree granting program be approved by the Council; and that if the Council approves this recommendation, that the president of the University of South Dakota, the Board of Regents and the Governor be apprised of this report and urged to proceed with the study and implementation of a degree granting program at the University of South Dakota Medical School.

Following a discussion of this recommendation, Dr. Taylor moved that the recommendations of the Commission on Medical Service be adopted and that the Council reaffirm its firm support of the two-year school. The motion was seconded by Dr. Leigh and carried.

Mr. Erickson read a letter from the Eighth District Medical Society with their nominations for Councilor to complete the term of Dr. Clark Johnson who has resigned. Dr. Leigh moved that Duane Reaney be named to complete the term of Dr. Johnson which will expire at the 1971 annual meeting. The motion was seconded by Dr. Reding and carried.

Mr. Erickson read a letter from C. S. Richter,

D.D.S. of Huron, requesting sample drugs from physicians for distribution in Central America. Dr. Leigh moved that announcement of this request be included in a future issue of the Grab Bag. The motion was seconded by Dr. Lietzke and carried.

The meeting adjourned at 3:30 p.m.

#### ANNOUNCEMENT

The Department of Postgraduate Medicine of Albany Medical College announces Reservations Now Being Accepted for a Spring Postgraduate Medical Seminar Cruise to the Mediterranean April 30-May 20, 1971.

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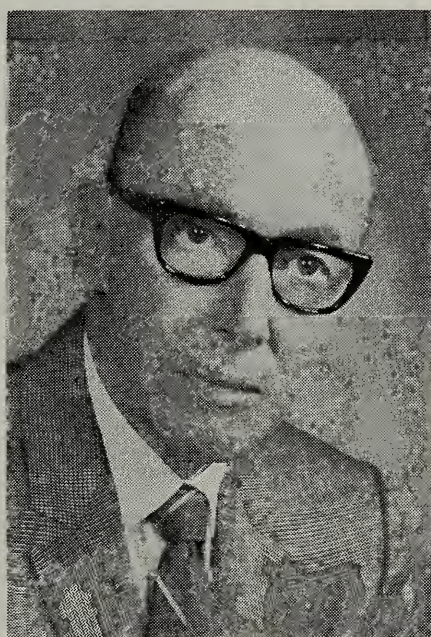
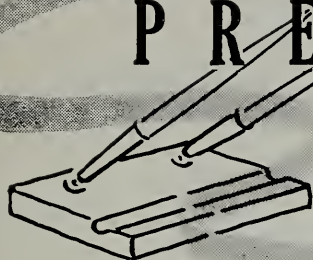
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# P R E S I D E N T ' S P A G E



Legislative activities continue to play a big role in the over-all concerns of organized medicine.

Over the years, the South Dakota State Medical Association has worked hard with our State Legislature to develop programs aimed at better health care for our citizens. It is important that this work and interest be continued by our Association.

Each year more and more bills are introduced which affect medicine and we can expect between thirty and thirty-five bills to be introduced during the '71 Session.

Our executive secretary, attorney and director of public relations will again be in Pierre, during the Session. If you have ideas or comments on legislative matters anytime during the Session, let these people know your thoughts. Headquarters are at the Holiday Inn.

J. A. Muggly, President



THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION  
Organized 1882 711 North Lake Avenue  
Sioux Falls, South Dakota 57104

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## "THE FAINTING ON THE JOHN" – Syndrome

E. H. Heinrichs, M.D.

A syndrome is the summation of "symptoms characteristic of a specific condition, disease or the like"<sup>1</sup> and as such the shorthand of medicine. With it we are able to describe briefly and precisely, complex findings or groups of diseases that have common denominators. Unfortunately the names of syndromes are often not related to the disease they represent but named after their first or subsequent describer. Thus "name calling" has resulted in a lingo between pediatricians, comparable to the special dialect in psychiatric circles.

The Fainting-on-the-John syndrome is described here not to add the authors name to the long list of eponyms, but to point out that several disease complexes have one important finding in common: the syncope in the bathroom. When this important clue is given, circumstantial evidence should lead the medical detective on the way to the right diagnosis.

There are probably many causes for this syndrome and this description claims not to be complete by any means. It should, however, be pointed out that small details in the history can lead to the correct diagnosis, save a gamut of laboratory tests, referrals to specialists, etc.

Orthostatic hypotension is probably the most common cause for this type of syncope.<sup>2</sup> Usually it concerns a very healthy male adolescent, tall and slender, the typical Aqua Velva man. He will tell you that he got out of bed in the morning feeling great and while standing in the bathroom shaving, 3-7 minutes later, became dizzy and blacked out. This phenomenon can be repeated in the office when after 20-30 minutes rest with blood pressure and pulse

measurements for base line, the patient is asked to stand up freely. Continued measurements will show that the pulse pressure widens and within 3-7 minutes the systolic pressure fades, while the pulse rate goes up and the patient down or at least becomes dizzy. The treatment is simple: just avoid sudden changes of position after prolonged rest (sit on the bedside for 5 minutes) and usually methylphenidate hydrochloride (10-20 mg. in a.m. and at noon) appears to be helpful. The prognosis is favorable: as the patient matures the circulatory system becomes more responsive to sudden changes of position.

Less frequent are all other causes for the syndrome. For more than a decade we have known the micturition syncope as a separate entity.<sup>3</sup> The mechanism is not entirely clear but it is presumed to be of vasovagal nature resulting in hypotension and cerebral anoxia. The usual history is that the patient, after several hours of sleep went to the bathroom, urinated while standing and lost consciousness during or immediately after terminating the act of voiding. The very nature of this history indicates that these attacks occur usually about midnight and involve mostly male individuals of no particular age group who are otherwise healthy and who have no similar attacks associated with straining at defecation, heavy lifting or other activities involving Valsalva's maneuver. The particular test which has been helpful to diagnose the condition is to have the patient void standing under EKG control after prolonged bedrest. One will notice even if the patient is not fainting a remarkable slowing of the pulse, including occasionally A-V blocks and sinus



arrhythmias. The treatment is very simple again: just advise the patient to sit on the toilet stool when voiding.

Rather rare is the psychomotor epileptic attack with micturition.<sup>4</sup> This problem involves both sexes, frequently there is a history of alcohol consumption prior to the event, the attack occurs independent from the erect position and has happened even when voiding in bed and occurs at the end, rather than during micturition. After the usual akinetic seizure, the patient shows post-ictal confusion, sleeps and is unaware of what has happened. The critical diagnostic test is the encephalogram with the typical changes after micturition. Anticonvulsant therapy is the therapy of choice. The causal connection between the micturition and the epilepsy is not fully understood.

A fourth cause to be considered concerns the patient with massive upper gastro-intestinal bleeding.<sup>5</sup> He may have increased peristalsis, cramps and an urge to defecate. Sitting on the toilet he strains, performs Valsalva's maneuver and faints shortly after standing up again. By that time the evidence has either been flushed or the patient has been unaware of it, especially when using outhouses, still in wide use in our area. A history of symptoms related to the G.I.

tract may be helpful and of course the good physical examination including the rectal "digitalization."

In any of these syncope, the situation may be aggravated by head injuries due to the fall resulting in coma. One should not accept the diagnosis of head injury by itself but investigate why the person fell in the bathroom to begin with. After asking a few pointed questions, the diagnosis may become clear very soon and proper treatment can be instituted immediately.


So, when encountering the Fainting-on-the-John syndrome, just get the facts. The rest is quite elementary, dear Dr. Watson!

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5. H. Jeghers, St. Vincent Hospital, Worcester, Mass. and Tufts Medical Service, Boston City Hospital, Boston, Mass.

#### GLOSSARY

Methylphenidate hydrochloride: Ritalin.



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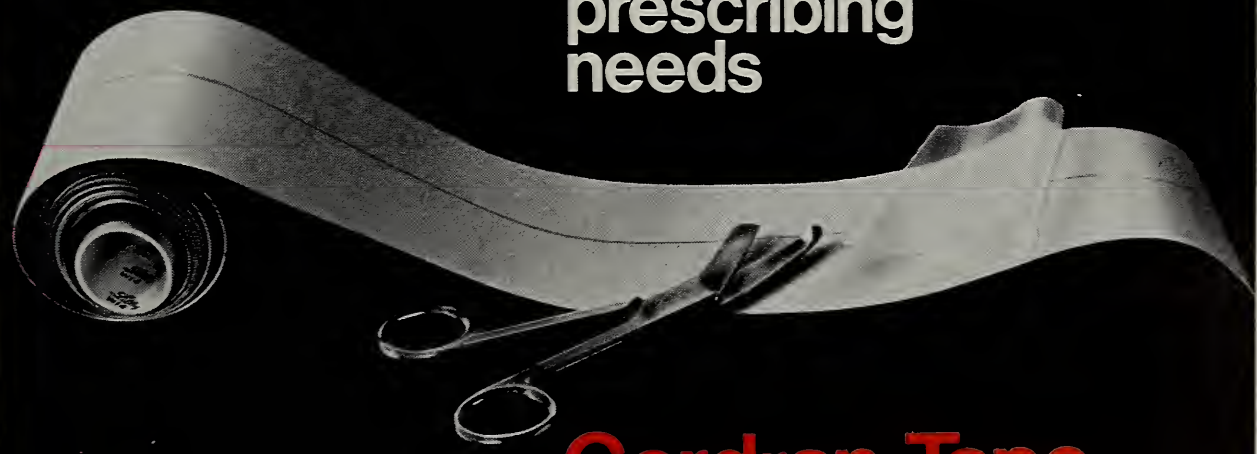
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**CONTENTS**

Volume XXIV                      February 1971                      Number 2

Pulmonary Candidiasis . . . . . 5  
(Third Article in Series)  
S. Sochocky, M.D., F.C.C.P.

This Is Your Medical Association . . . . . 11

Family Practice: Present and Future . . . . . 12  
A. Sherwood Baker, M.D.

President's Page . . . . . 22

Clinicopathological Conference . . . . . 27

Letters to the Editor . . . . . 36

Economics: Regional Medical Library —  
Regional Medical Program Cooperation . . . . . 37  
E. N. Jyvaskyla, M.S.; James R. Nordstrom, MSPH;  
Henry M. Parrish, M.D., Dr. P.H.

Minutes of the Council Meeting . . . . . 43





# Scientific

# PAPER

3rd Article in Series

## PULMONARY CANDIDIASIS

by

S. Sochocky, M.D., F.C.C.P.\*

### Introduction:

Candidiasis or moniliasis is an acute, subacute or chronic infection caused by species of candida. There are about 150 strains of candidiasis but *Candida Albicans* is mainly pathogenic for man. *Candida Albicans* exists usually in three morphological forms; yeast cells, mycelium or pseudomycelium and chlamydo spores which grow on various cultures of media. According to Winner and Hurley,<sup>1</sup> Langenbeck, in 1839, discovered *Candida Albicans* which is usually seen as small budding yeast-like cells with thin walls about 2 - 4 microns in diameter.

### Pathogenesis:

*Candida Albicans* is often present in mouth and throat of normal persons, where it exists as a saprophyte. However, it may become a parasite and produce a rather severe infection under certain circumstances. There are several contributing factors but the most important are pre-existing disease, treatment with antibiotics, steroids, cytotoxic, immunosuppressive drugs and a malnutrition.

Infection with *Candida Albicans* occurs in all ages, races and in both sexes, common in children and between 30 and 40 years of age. Candidiasis may affect almost any system of the body but most common are the skin, mucous membranes and respiratory system, or may become disseminated. Disseminated and fatal cases of candidiasis occur with an increasing frequency following treatment with antibiotics and steroids. E. R. Harrell<sup>2</sup> et al. described two

patients with bacterial endocarditis due to coagulase positive *Staphylococcus aureus*. These patients were treated with large doses of broad spectrum antibiotics and cultures of their blood showed *Candida Albicans*. Kaufman<sup>3</sup> et al. described a case of esophagitis due to *Candida Albicans* in patient with leukemia.

### Clinical Manifestations:

*Candida Albicans* causes two forms of lung infection, a bronchopulmonary and a pulmonary. Bronchopulmonary candidiasis is not uncommon, produces signs and symptoms of a bronchitis. This infection is limited to bronchial tree and peribronchial tissue is little affected. Cough, dry or with sputum which may be mucoid or gelatinous and elevation of temperature are most common symptoms.

Symptoms are more severe in pulmonary candidiasis as parenchyma of lungs is involved. The common symptoms are cough, with or without sputum, fever, a shortness of breath and chest pain. Cough may be dry, hacking or productive, sputum may be mucoid, mucopurulent or blood stained. There also may be present general malaise, anorexia, loss of weight and fever up to 106 degrees has been reported. Signs depend on amount of lung tissue involved, may reveal signs of consolidation which may be scattered or confluent. Moist rales with dullness and changes in breath sounds may be present. Signs of bronchitis or involvement of pleura, as pleural effusion, may also be found. Clinical manifestations of anaphylactic hypersensitivity may develop during infection with *Candida Albicans*. Edmund L. Keeney<sup>4</sup> reported bronchial asthma which followed a bronchial infection. The symp-

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toms of asthma disappeared when infection was controlled.

#### **Radiological findings:**

Chest film reveals slight to moderate peribronchial thickening in bronchopulmonary candidiasis. In pulmonary candidiasis chest film shows shadows varying in size and shape, soft, patchy infiltration, bronchopneumonic or miliary densities. These lesions are usually bilateral and widespread. The enlargement of mediastinal glands, atelectasis, cavitations and pleural effusion may be found. Alvis E. Greer<sup>5</sup> reported a series of 9 autopsied cases of disseminated candidiasis in which lungs were involved in 9 and pleura in 7.

#### **Laboratory data:**

Secondary anemia may be present and white cell count is usually elevated. In severe infection complete blood count may show changes comparative with leukemoid reactions. High globulin level in blood may also be present. Skin tests are of no great value because of high percentage of positive reactions in patients without active infections. Agglutinins and precipitins may be present in patients with severe form of systemic infections. Cultures of sputa, bronchial and gastric washings usually show *Candida Albicans* on repeated examination. The urine may show albumin, leukocytes and hyaline casts.

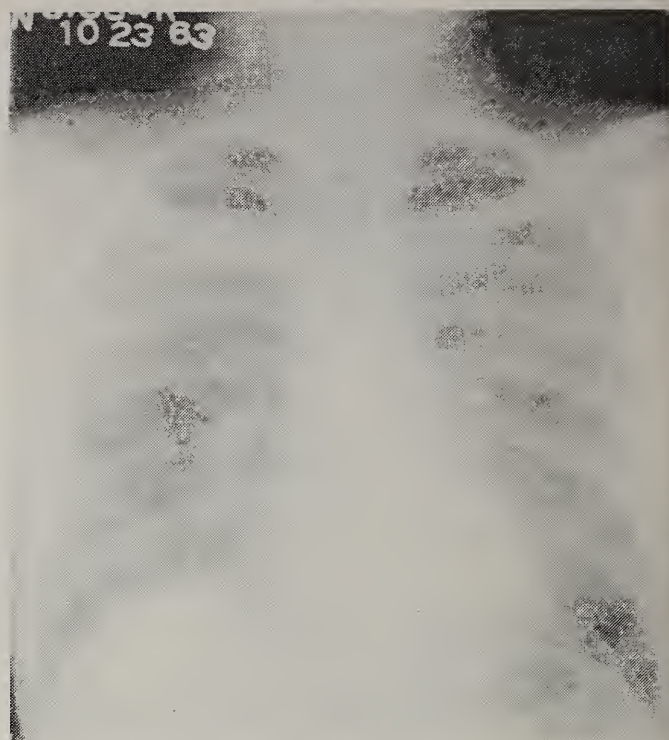
#### **Illustrative case:**

A 24 year old non-white male was admitted to a hospital with a presumptive diagnosis of pulmonary tuberculosis of 2 weeks duration. On admission he was acutely ill and his temperature was 106 degrees. He complained of a dry cough, a shortness of breath, poor appetite and loss of weight. Chest respiratory movements equal and fair and rhonchi heard in both lungs. Family and past history not remarkable.

#### **Laboratory investigations:**

Skin test OT 1:2000, coccidioidin and histoplasmin negative. Sputa negative on direct smear and culture for tubercle bacilli but revealed *Candida Albicans*. No malignant cells were found in sputum. Chest film showed miliary shadows in both lungs which were confluent in both upper parts (See Figure 1). As a presumptive diagnosis of miliary tuberculosis was accepted he received 1 gram streptomycin and 300 milligrams isoniazid daily. Chest film 11-5-63 shows an increase of shadows in both lungs (See Figure 2). Repeated examinations on direct smears and cultures showed only *Candida Albicans* and failed to show any bacterial or other fungus infections. In review of results of

**Figure 1.**



Chest film 10-23-63 shows miliary shadows involving both lungs.

**Figure 2.**



Chest film 11-5-63 shows an increase in shadows in both lungs.

cultures of sputa streptomycin and isoniazid were discontinued after 3 weeks; course of Amphotericin B was given. However, his condition steadily deteriorated and chest film 12-10-63 showed further increase of shadows in both lungs (See Figure 3). He died 6 weeks after admission to hospital.

Pathologist reported by using special stains



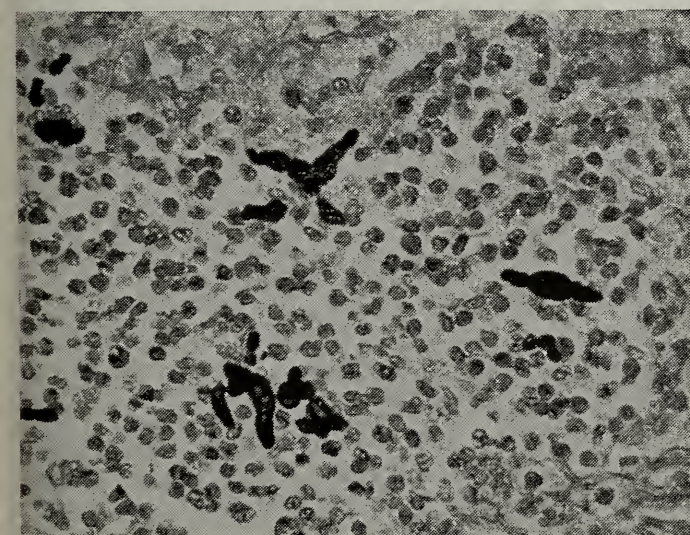
Figure 3.



Chest film 12-10-63 shows an increase of shadows involving almost every part of both lungs.

"there are foci of granulomatous inflammation with epithelioid and giant cells seen throughout lung parenchyma. A severe focally confluent bronchopneumonia is also present. Alveoli spores are filled with neutrophils and surrounded by epithelioid and giant cells. Eosinophilic fibrillar and granular material is in many alveoli and a large cyst filled mainly with similar material is noted. Macrophages with foamy cytoplasm fill many alveoli. A few foci of necrosis are seen but typical necrosis is not noted. There is a marked focal pulmonary fibrosis and subpleural blebs are seen. There is no evidence of malignancy or other infection. Examination

Figure 4.



Photomicrograph of section of lung shows granulomatous tissue with *Candida Albicans*.

of special stains reveals organisms morphologically identical to *Candida Albicans*. The significant findings are the acute and granulomatous inflammation of the lungs. The etiologic agent of this granulomatous inflammation is morphologically identical with *Candida Albicans* (See Figure 4). There is no evidence of malignancy or of other infection."

#### Discussion:

*Candida Albicans* is frequently found in sputum as a saprophyte without causing any signs or symptoms. The frequency of *Candida Albicans* found in sputum of normal persons varies according to various statistics. According to Scott<sup>6</sup> the fungus may be found in sputum of 30 - 40 per cent of population and according to Abrams<sup>7</sup> in 3 per cent. In our series<sup>8</sup> of 200 patients *Candida Albicans* was found in 30 patients, or 15 per cent.

Diagnosis of pulmonary infection with *Candida Albicans* is rather difficult as it may mimic any other pulmonary disease, bacterial, as pulmonary tuberculosis, virus infection or fungus diseases. It is also rather difficult as *Candida Albicans* is often present in sputa of normal persons.

As there are no pathognomonic signs and symptoms of pulmonary candidiasis it is essential to exclude presence of any other cause of lung disease, especially tuberculosis. *Candida Albicans* must be found on repeated examination of sputa or preferably bronchial washings. Cultures of sputa should be negative for pyogenic bacteria, tubercle bacilli and negative for malignant cells. Skin tests are not of any value but serological tests may help in diagnosis of visceral candidiasis. According to Preisler<sup>9</sup> et al. there is a rise of titer in agglutinating and precipitating antibodies against *Candida Albicans* in visceral candidiasis. In his series of 33 patients dying of acute leukemia, 23 with visceral candidiasis on autopsy had significant rise of agglutinating antibody titer before death but none of 10 patients who did not have visceral candidiasis on autopsy had a rise in agglutinating titer before death. However, diagnosis may be finally established by lung biopsy.

Prognosis is fair to good in bronchopulmonary form but grave in pulmonary form.

#### Treatment:

Various drugs have been used in treatment of pulmonary infections with *Candida Albicans*. Bronchopulmonary candidiasis responds to treatment with potassium iodide but in pulmonary and disseminated forms Amphotericin B



should be given. E. R. Harrell<sup>2</sup> et al. described one patient with septicemia due to *Candida Albicans* who was treated by use of mycostatin parenterally. He suggested prophylactic treatment with mycostatin in patients receiving a broad spectrum antibiotic for a long time. John H. Kennedy<sup>10</sup> treated a patient with cavitary bronchopulmonary moniliasis by resection of affected segment and post-operative brilliant green aerosol therapy.

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HEALTH SPENDING ON RISE

Spending for health and medical care continued to increase, reaching \$60.3 billion in the fiscal year that ended June 30, 1969, according to the Division of Health Insurance Studies, Office of Research and Statistics. Highlights of the report include: (1) The nation's health expenditures accounted for 6.7 percent of the GNP; (2) Total outlays rose \$6.4 billion, or 12 percent in one year; (3) Increases in spending were reported for all public programs except medical research; (4) Health spending per person amounted to \$294 a year (\$184 from private sources and \$110 from public funds).

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# MEDICAL ASSOCIATION

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News Notes • Changes • Births • News

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The Black Hills District Medical Society presented a 50 year pin to **Frieda J. Radusch, M.D.**, Rapid City, on behalf of the South Dakota State Medical Association in tribute for the 50 years she has practiced medicine in South Dakota.

\* \* \*

**Gerald F. Tuohy, M.D.**, former anesthesiologist at McKennan Hospital in Sioux Falls, has been named Chairman of the Department of Anesthesia at St. Luke's Hospital in Kansas City, Missouri.

\* \* \*

Dr. Anthony Castillo Lopaz, Altamirano, Chiapas, Mexico, has returned to the American mission hospital there after working with **William Delaney, M.D.**, Mitchell, for one month. Last year Dr. Delaney worked with Dr. Castillo at the mission hospital for two weeks.

The American Medical Association Board of Trustees has announced the reappointment of **A. A. Lampert, M.D.**, Rapid City, to a two-year term on the Council on Legislation of the American Medical Association.

**J. C. Murphy, M.D.**, formerly of Hot Springs, has retired from active practice and is now residing in Bettendorf, Iowa. Dr. Murphy practiced in Murdo for a number of years before joining the staff at the V.A. Hospital in Hot Springs.

\* \* \*

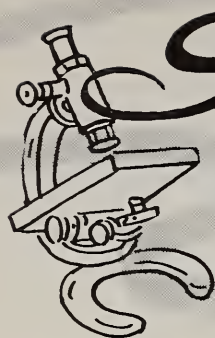
**C. B. McVay, M.D.**, Yankton, has been named one of 26 doctors whose work has contributed to the outstanding advances made in surgery during the past 20 years. The American College of Surgeons has credited Dr. McVay with making "fundamental contributions for the anatomical repair of hernias."

\* \* \*

Creighton University honored **Francis J. Tobin, M.D.**, Mitchell, on his 50th anniversary as a graduate of the University's Medical School. Dr. Tobin and other members of the class of 1920 received special citations at the annual Medical Alumni Banquet.

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# Scientific

# PAPER

## FAMILY PRACTICE: PRESENT AND FUTURE\*

by

A. Sherwood Baker, M.D.\*\*

I want to talk to you about Family Medicine, something that affects us all, because no matter where we live or what we do, at one time or another we are members of a family. Despite the assaults of the "new morality" (neither new nor moral), pre-packaged foods and jet planes, we still are identified at intervals with a cultural group known as the family.

I submit that there is an existence of a body of medical knowledge and skills that are called "family medicine."

The family and home are still, quite obviously, evident. A bit ago, I watched a harried housewife in a store having some of her children fitted for shoes. Looking at her 4 pre-schoolers she commented, "Sometimes I wish I'd loved and lost."

That family has to go somewhere for its medical needs. The general practitioner of America, particularly rural America, that we have known and identified has been a very special breed. (Usually about here the speaker paints a glowing landscape of medicine to include black bags, horses and buggies, World War II, the computer and specialization). I will leave my paint behind and you can draw your own landscape.

This physician has not had an actual counterpart outside of the North American continent. Our British and Continental cousins have been somewhat different, particularly in their relationship to hospital medicine. The American GP had to be self-reliant and self-taught in many instances. His academic mothers are totally un-

able to understand him or at times to forgive him for what he has become, have cast him out and have ignored him in their future plans.

Some years ago the professional medical educators gave up on keeping that train running on the tracks that produced kinds such as ourselves. They never really offered incentives for such production. Recently, some severe and chilly winds have been blowing at the Ivory Towers. A series of national studies, one of the most important of which was underwritten by the AMA and was dubbed the "Millis Report" espoused and promoted the term "primary physician."

Now, we have had additional reports and recommendations from health bureaucrats and politically active officials which have given us the euphorious term "health care delivery."

Whether the term demands come from consumers, planners, politicians or the profession itself, it is quite apparent that things should be done to supply working-type doctors. From this has come the positive action to increase the size and number of medical schools. By natural selection and inclination there may be still a few hardy souls who, upon meeting licensure requirements, paint a shingle, buy a black bag, and go to work. Such is the natural resiliency of youth and the adaptability of the public that things get along fairly well. With help from colleagues and a self-started planning program for continuing education, this neophyte becomes a journeyman doctor.

Now we have a new creation known as a specialist in family practice. In a few weeks, somewhat less than two thousand doctors will have a new diploma to add to their walls, attesting to all beholders that the proprietor has had extra recognition. Those who are here that

\*A talk presented at the Annual Awards Banquet of the University of South Dakota School of Medicine, Sioux Falls, South Dakota, April 4, 1970.

\*\*Professor and Chief of the Section on Medical Practice, Department of Community Health and Medical Practice, School of Medicine, University of Missouri, Columbia, Missouri 65201.



had a lost weekend in February will agree that this will have been no minor achievement if they get that diploma.

Some very dedicated and thoughtful people worked for many years to create the Board of Family Practice. While its effect on making some of us hit the books this winter is creditable, in my mind the only long-run worthwhile objective is in creating a comparable standing and stability for those future physicians who are now students. The effort will not be really worthwhile unless recruiting of new general practitioners is a result.

The future requirements for eligibility for this examination will require the serving of a residency that has some fairly comprehensive details. In addition to covering the same ground as other residents in the hospital, the family practice resident will be made responsible for the continuing total care of clearly identifiable bodies of patients, usually in family units. So he will have not only horizontal patients, but vertical ones as well.

Now, all of these training programs are housed in the Ivory Towers of acute care. A given part of the training must be in extramural settings and the community supplies the laboratory.

Several of the schools have recognized the need for the latter in the training of students. Your own school has had lengthy experience with rural preceptorships. Each year a few more schools of the country do the same thing.

Let's describe what we think are the elements of a graduate training program. First, let me show you what happens if we try to make fine, neat compartments.

### SIX WISE MEN OF MEDICINE

There were six men of Medicine  
To learning much decided  
Who went to see an old GP  
Whom all had much derided  
That each by observation  
Might prove where he abided.

The first approached a busy ward  
And happening to see  
That Doc had tied a belly cord  
At once exclaimed with glee,  
"God bless me! but the family man  
Does nothing but OB."

The second seeing stethoscope  
Applied to hairy chest  
Cried, "I have the truth, I hope.  
This man performs the very best  
Giving well the clientele  
Skills of an internist."

The third approached our doctor friend  
While with a child he spoke  
Of an illness soon to end  
And cheered him with a joke.  
"I see" quoth he "this old GP  
Has Pediatrics in his cloak."

The fourth reached out an eager hand  
And felt about the table.  
"What this wondrous creature is like  
To see it now I'm able.  
It's clear enough this fellow though  
Is a surgeon without a label."

The fifth who chanced to spot a couch  
Said "Friends, here is a twist.  
We've burned out fuel, observed as fools  
We can't see through the mist.  
It's plain to me, this old GP  
Is a psychiatrist."

The sixth no sooner did inquire  
About habits and intention  
When spying Tines, Paps, and smears  
Bloods and urines in convention  
Said "Brethren, I'm sure he has  
Great skills in ill's prevention."

And so these men of medicine  
Contended loud and strong  
That each observed his single truth  
With findings clear and strong  
Though each was partly in the right  
They all were in the wrong.

### MORAL

So oft in scientific circles  
The observers one often sees  
Rail on in partial ignorance  
Of ships on medical seas,  
And never appreciate the forests  
They only see the trees.

This binding substance or mortar should be obtained by the extra skills acquired by a trainee in the family practice unit. If he handles the diverse problems of carrying a diabetic through three years of additional management, a mother from pre-marital days through several pregnancies and in the rearing of those children from those pregnancies, and a father from ulcers to angina, he should then have a depth of confidence and ability that makes him a credit to our profession.

If you really let your mind explore the full meaning of the term "family medicine," there are all kinds of implications. I just mentioned some nice, clear-cut clinical entities, but what about child-rearing, family finances, sex counseling, home safety, and what to buy at the grocery store? If the traditional family is to survive this century, it will need a trusted and dependable friend.

### Some Definitions

Lynn Carmichael, M.D.

While we feel there is a distinct difference between general practice and family medicine, frequently the terms are confused and used interchangeably. Perhaps the following definitions will clarify this.

### Family Medicine

Family Medicine is that branch of medical science that has as its responsibility the continuing health maintenance of the family. As an academic discipline it has a distinct body of



knowledge and is housed in the university. Others besides physicians are involved in the discipline.

### General Practice

The general practice of medicine is a form of delivering medical care. It involves the episodic treatment of disease without regard to age, sex or organ system. The goal is service and there are cultural, political, geographic and economic aspects.

### Comprehensive Care

Health concerns can be divided into demands, for which the patient seeks care, and needs, of which the individual or family is largely unaware. The degree of "comprehensiveness" is the extent to which the needs as well as the demands are met.

### Family Physician

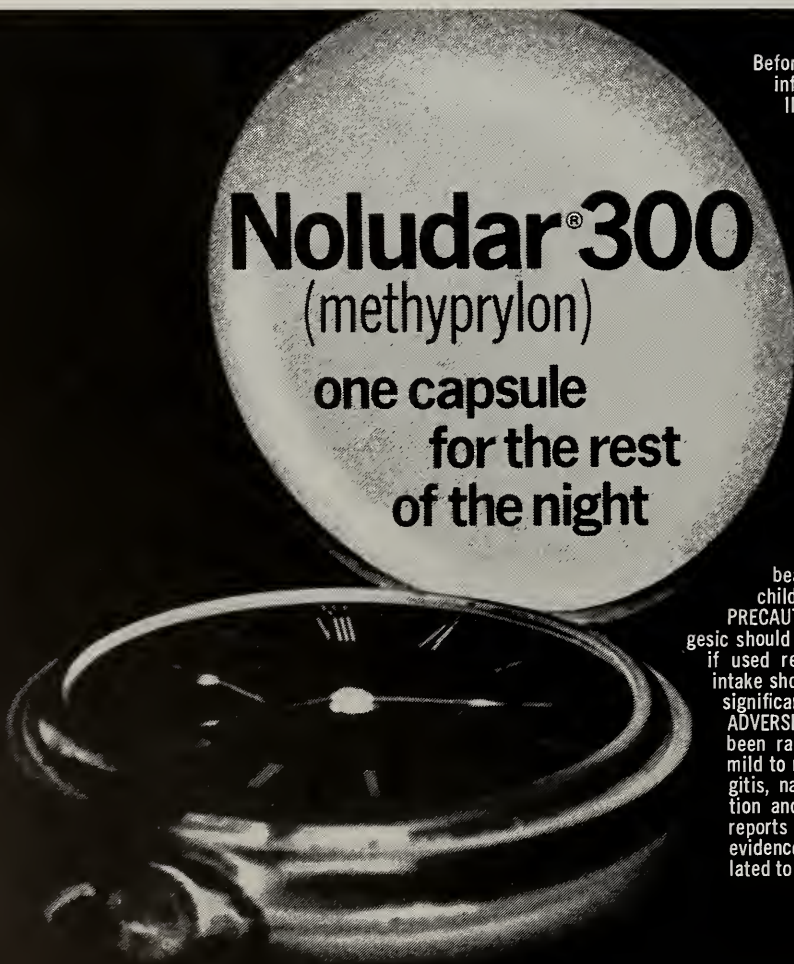
The family health care specialist is a physician who, through continuity of care, has developed a tenured relationship with the family. He accepts the family as the unit of care and actively promotes its health. In the past one could become a family physician through experience gained in the general practice of medicine or pediatrics. While many general practitioners, internists and pediatricians have become good family doctors, none have been

specifically trained for this role.

So, in the training program leading to eligibility for certification, we are thinking of all these sorts of problems. In our own University we are talking to everybody that will listen and listening to everyone that will talk. Our training program, briefly, envisions the management of a given number of families who, at the present time or at a future date, will become employees of the University or the new Veterans Hospital. The resident will spend approximately 10 percent of his working week during the first year of his program, 20 percent of his second year, and 50 percent of his third year in the Family Practice Clinic. During certain demanding services in the first year, it is obviously a compromise between the needs of the in-hospital cases and the out of the hospital cases and so, at least while in the Department of Medicine he will have a full-time devotion to the Department of Medicine.

This is not the favoritism that you might think. All the studies that have been done so far as to differences in the quality of care, as performed by the general practitioner, revolve about the skills exhibited by that doctor in the specialty of Internal Medicine. While I am not

(Continued on Page 19)



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**Usage in Pregnancy:** Weigh potential benefits in pregnancy, during lactation, or in women of child-bearing age against possible hazards to mother and child.

**PRECAUTIONS:** If sleeplessness is pain-related, an analgesic should also be prescribed. Perform periodic blood counts if used repeatedly or over prolonged periods. Total daily intake should not exceed 400 mg, as greater amounts do not significantly increase hypnotic benefits.

**ADVERSE REACTIONS:** At recommended dosages, there have been rare occurrences of morning drowsiness, dizziness, mild to moderate gastric upset (including diarrhea, esophagitis, nausea and vomiting), headache, paradoxical excitation and skin rash. There have been a very few isolated reports of neutropenia and thrombocytopenia; however, the evidence does not establish that these reactions are related to the drug.

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**NOTE:** Not recommended during the acute recovery phase following myocardial infarction. Patients with cardiovascular disorders should be watched closely; arrhythmias, sinus tachycardia, and prolongation of the conduction time have been reported, particularly with high doses; myocardial infarction and stroke have been reported with drugs of this class. Close supervision is required for hyperthyroid patients or those receiving thyroid medication. Concurrent electroshock therapy may increase the hazards of therapy; such treatment should be limited to patients for whom it is essential. Discontinue the drug several days before elective surgery if possible.

**Contraindications:** Known hypersensitivity. Should not be given concomitantly with or within at least 14 days following the discontinuance of a monoamine oxidase inhibitor. Then initiate dosage of amitriptyline HCl cautiously with gradual increase in dosage until optimum response is achieved. Not recommended during the acute recovery phase following myocardial infarction or for patients under 12 years of age. **Warnings:** May block the antihypertensive action of guanethidine or similarly acting compounds. Should be used with caution in patients with a history of seizures or urinary retention, or with narrow-angle glaucoma or increased intraocular pressure. Patients with cardiovascular disorders should be watched closely; arrhythmias, sinus tachycardia, and prolongation of the conduction time have been reported, particularly with high doses; myocardial infarction and stroke have been reported with drugs of this class. Close supervision is required for hyperthyroid patients or those receiving thyroid medication. May impair mental and/or physical abilities required for performance of hazardous tasks, such as operating machinery or driving a motor vehicle. Safe use during pregnancy and lactation has not been established; in pregnant patients, nursing mothers, or women who may become pregnant, weigh possible benefits against possible hazards to mother and child.

**Precautions:** When used to treat the depressive component of schizophrenia, psychotic symptoms may be aggravated; in manic-depressive psychosis, depressed patients may experience a shift toward the manic phase, and paranoid delusions, with or without associated hostility, may be exaggerated; in any of these circumstances, it may be advisable to reduce the dose of amitriptyline HCl, or to use a major tranquilizing drug, such as perphenazine, concurrently.

When given with anticholinergic agents or sympathomimetic drugs, close supervision and careful adjustment of dosages are required. May enhance the response to alcohol and the effects of barbiturates and other CNS depressants. The possibility of suicide in depressed patients remains during treatment and until significant remission occurs; this type of patient should not have easy access to large quantities of the drug. Concurrent electroshock therapy may increase the hazards of therapy; such treatment should be limited to patients for whom it is essential. Discontinue the drug several days before elective surgery if possible.

**Adverse Reactions:** *Note:* Included in this listing are a few adverse reactions not reported with this specific drug. However, pharmacological similarities among the tricyclic antidepressant drugs require that each reaction be considered when amitriptyline is administered.

**Cardiovascular:** Hypotension, hypertension, tachycardia, palpitation, myocardial infarction, arrhythmias, heart block, stroke. **CNS and Neuromuscular:** Confusional states; disturbed concentration; disorientation; delusions; hallucinations; excitement; anxiety; restlessness; insomnia; nightmares; numbness, tingling, and paresthesias of the extremities; peripheral neuropathy; incoordination; ataxia; tremors; seizures; alteration in EEG patterns; extrapyramidal symptoms. **Anticholinergic:** Dry mouth, blurred vision, disturbance of accommodation, constipation, paralytic ileus, urinary retention, dilatation of urinary tract. **Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue. **Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. **Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, parotid swelling. **Endocrine:** Testicular swelling and gynecomastia in the male, breast enlargement and galactorrhea in the female, increased or decreased libido. **Other:** Dizziness, weakness, fatigue, headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, drowsiness, jaundice. **Withdrawal Symptoms:** Abrupt cessation of treatment after prolonged administration may produce nausea, headache, and malaise; these are not indicative of addiction.

**How Supplied:** Tablets containing 10 mg and 25 mg amitriptyline HCl, in single-unit packages of 100 and bottles of 100, 1000, and 5000; tablets containing 50 mg amitriptyline HCl, in single-unit packages of 100 and bottles of 100 and 1000; for intramuscular use, in 10-cc vials containing per cc: 10 mg amitriptyline HCl, 44 mg dextrose, and 1.5 mg methylparaben and 0.2 mg propylparaben as preservatives.

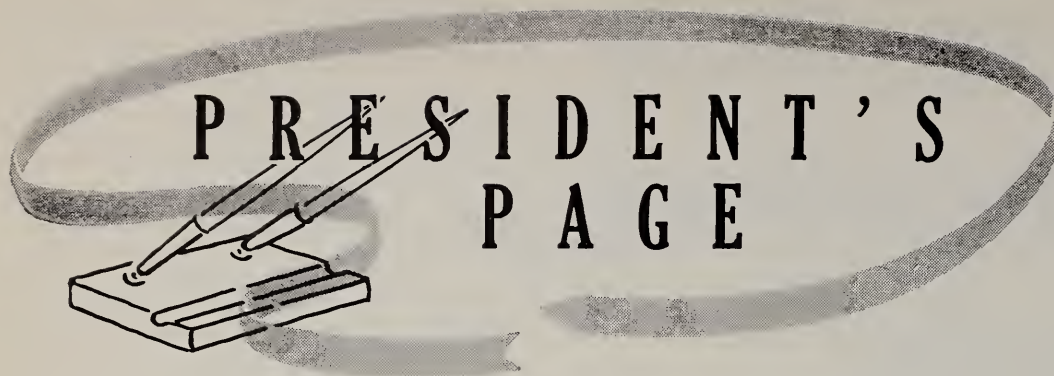
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I have been asked why the increase in AMA dues? What do I get for my AMA dues?

The AMA is operating at a deficit at this time. For the past two years it has kept narrowly in balance. The cost of operation has increased due to inflation, new programs, unprecedented activity of government in health affairs, the possibility that federal tax will be levied on income derived from advertising in the AMA Journal, plus many other factors.

The cost of operation is estimated to be \$34,000,000 this year. The expenses are broken down as follows: programs — \$25,647,000; occupancy — \$1,526,000; administrative — \$6,791,000. There are over 1,000 employees. The funds will come from the following sources: membership dues — 33.7%; advertising — 36% (later cut to 33.7%); subscriptions — 9%; investments — 2%; books, pamphlets and royalties — 14%.

The AMA is involved in many facets of medicine. It sets professional standards and professional ethics throughout the United States. It helps set hospital standards through the Joint Commission. It sets medical school standards as well as internship and residency requirements.

The AMA aids in continued education, through the AMA Journal, plus the ten other specialty journals, the scientific sessions, through its library, scientific also socio-economic (one of the finest in the world) yet how many of you have ever used it? It acts as an information center on a multitude of subjects just by your asking. There are motion pictures, audio visual aids, speech materials, also booklets.

The AMA through the Education Research Foundation (ERF) supports medical schools and medical education.

I think the words of our president, Dr. Walter C. Bornemeier, summarizes the AMA very well.

"The AMA is not an organization in some distant city. It is not a building, or a staff, or a budget. The AMA is you. It is your colleagues in practice, on the hospital staff, in education, in research. It is your fellow physicians throughout the United States. With support from you and more than 200,000 others like you, the AMA provides a wide variety of useful and valuable services to you and other physicians. It speaks to the government and to the public as the voice of American medicine. It maintains the standards of qualification, performance and ethics of the entire medical profession, all for the benefit of the people and the nation. The AMA and the medical profession are one and the same. The medical profession is you."

J. A. Muggly, President





# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by  
the Department of Pathology of the Hospital and of the School of Medicine  
of the University of South Dakota*



EVERETT W. SANDERSON, M.D., FACP\*  
*Internist - Discussor*

JOHN F. BARLOW, M.D.\*\*  
*Pathologist - Editor*

## SIXTY-SIX YEAR OLD CAUCASIAN FEMALE WITH PROGRESSIVE SOMNOLENCE

### CASE NO. A-69-63 (M488887)

This 66-year old Caucasian married female entered Sioux Valley Hospital because of progressive somnolence of approximately six months duration.

Five months prior to admission her children had noted she was more sleepy than usual and wanted to be in bed most of the time. She was admitted to another hospital for a 30-day period. She was diagnosed as having a "stroke" and was placed on anticoagulation with Coumadin. Her somnolence improved and she was discharged. She did well after discharge except for intermittent periods of lethargy. Her prothrombin time was 31 seconds with a control of 13 seconds. During the two weeks prior to admission she became more somnolent than usual with increased periods of sleepiness but would then wake up, be in contact with her environment, answer questions, and be quite rational. For two days prior to admission she had become unresponsive. The patient's children stated that she had always been anemic, tired and had high blood pressure. There was a history of gallbladder surgery years previously but no other hospitalizations for major disease.

Physical examination revealed a very dehydrated elderly female who was somnolent with sunken eyes and dry skin. The complexion was sallow and pasty and there was loss of skin turgor. Pulse was slow and regular at 72/minute, respirations 16/minute, temperature 103°F. rectally, blood pressure 70 systolic and 52 diastolic. The patient responded to painful stimuli but not to voice commands. The neck was

fairly supple. The only abnormalities of the head and neck were mild arteriosclerotic fundal changes and dryness of the oral mucosa. The thyroid was unremarkable. The chest had an increase in A-P diameter with some hyper-resonance to percussion. She appeared to be hypoventilating. There were a few rhonchi scattered throughout the chest. The heart was not enlarged to percussion and there was a normal sinus rhythm with good heart tones and no murmurs. The abdomen was soft with tenderness in the right upper quadrant to deep palpation. A vague mass was present. The liver edge was palpable but the liver was not enlarged. The spleen was not palpable. The pelvic examination was negative. The deep tendon reflexes were responsive and symmetrical. The plantar reflexes were flexor. The pupils were midpoint and slightly irregular but equal. They reacted to light very sluggishly. Corneal reflexes were hypoactive. The conjunctivae were suffused. The optic nerve heads were flat. There were no retinal hemorrhages. The patient would not move her eyes to either side. The remainder of the cranial nerves appeared intact.

Clinical pathology data: Urinalysis - yellow, clear, specific gravity 1.012, pH 5.0, negative for protein, glucose, ketone bodies, hemoglobin; sediment — 1-2 leukocytes/high power field. Hemoglobin 16.3 gm%, red count 4.14 million/mm,<sup>3</sup> hematocrit 46 Vol.%, mean corpuscular hemoglobin 34 micromicrograms, mean corpuscular volume 97 cubic micra, mean corpuscular hemoglobin concentration 36%. Total leukocyte count 5,000/mm,<sup>3</sup> with 40% neutrophils, 7% neutrophilic bands, 1% eosinophils, 1% basophils, 50% lymphocytes, 1% monocytes. The red cells were normochromic with moderate anisocytosis. The platelets appeared increased. There were mild toxic changes in the neutrophils. Carbon dioxide content was 24 meq/L.,

\* Specialist in Internal Medicine, Sioux Valley Hospital, Clinical Assistant Professor of Medicine, School of Medicine, University of South Dakota.

\*\*Pathologist, Sioux Valley Hospital, Professor of Clinical Pathology, School of Medicine, University of South Dakota.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institutes of Health, U. S. Public Health Service.



chloride 98 meq/L., fasting blood sugar 118 mgs/100 ml., blood urea nitrogen 37 mgs/100 ml., prothrombin time 16.5 seconds with a 12.0 second control. Total protein was 5.2 gms/100 ml., albumin 2.3 gms/100 ml., alpha 1 globulin 0.3 gms/100 ml., alpha 2 globulin 0.8 gms/100 ml., beta globulin 0.7 gms/100 ml., gamma globulin 1.1 gms/100 ml., serum glutamic oxaloacetic transaminase 32 R-F units, bilirubin-total 0.3 mgs/100 ml., indirect 0.1 mgs/100 ml., direct 0.2 mgs/100 ml., alkaline phosphatase 1.3 sigma units. Creatinine 0.7 mgs/100 ml. Triiodothyronine resin uptake (T-3) was 28%. PBI was 12.4 micrograms/100 ml. A spinal tap revealed an opening pressure of 110 mm of H<sub>2</sub>O. The fluid was xanthochromic but clear. There were 5 red cells and 6 leukocytes/mm.<sup>3</sup> All leukocytes were polynuclear. The cerebrospinal fluid protein was 325 mgs/100 ml. The cerebrospinal fluid sugar 52 mgs/100 ml., the cerebrospinal fluid creatine phosphokinase was 5 units. The spinal fluid serology was nonreactive. Culture of spinal fluid was negative for mycobacteria, fungi, and other pathogens. A tuberculin skin test (PPD intermediate) was negative at 48 hrs. Urine 17-ketosteroids were 2 mgs/day (normal 5-15 mgs/day). 17 ketogenic steroids 4 mgs/day (8.3-15.5 mgs/day normal). Creatinine on this sample was 0.45 gms/24 hours (normal 0.7-2.0 gms/24 hrs.) Repeat showed 17 ketosteroids to be 6.7 mgs/24 hrs. and 17-hydroxy steroids to be 1.4 mgs/24 hrs. creatinine 0.6 gms/24 hrs. A Schilling test showed 4.4% excretion (normal 8% excretion or over). Repeat electrolytes 3 days later revealed carbon dioxide 33 meq/L., sodium 148 meq/L., potassium 4.5 meq/L., chloride 89 meq/L. Three blood cultures were negative. Electrocardiogram was abnormal with low QRS voltage and there was diffuse ST and T wave changes and sinus tachycardia. Her fever returned to normal slowly. Chest film was unremarkable except for linear atelectasis in the left base. Skull films showed generalized demineralization of the bones and an impacted left maxillary anterior tooth. A percutaneous arteriogram showed findings consistent with a subdural hematoma on the left with a possible associated neoplasm in the posterior parietal region superiorly. A brain scan using Technetium-99 showed mottled areas in the left and right lateral views in temporal regions.

A left parietal craniectomy and evacuation of intracerebral cyst was performed on the ninth hospital day. There was no evidence of subdural hematoma. Fluid from the cyst cavity was sterile and revealed blood clot on microscopic

examination. The fluid was grossly bloody with 41,000 red cells and xanthochromic after centrifugation. The protein was 2.1 gms/100 ml. During hospitalization she continued to run a low grade fever. After surgery she became less responsive and the left pupil became dilated and fixed to light. Cold water calorics revealed a tonic deviation of the eyes toward the side irrigated. This was interpreted as indicating an intact brain stem with bilateral deep cerebral lesions. After surgery the sodium became progressively elevated to a level of 160 meq/L., with a potassium of 2.4 meq/L., chloride of 108 meq/L., carbon dioxide content 28 meq/L. The blood urea nitrogen climbed to 98 mgs/100 ml. The patient was receiving intravenous fluids during this time. The patient developed periodic breathing and died on the sixteenth hospital day.

DR. SANDERSON: Dr. Lang, will you review the brain scan?

\*DR. LANG: The brain scan was definitely abnormal. The right and left lateral views show irregular mottling which could be due to damage to the capillaries from any number of causes such as infarction, tumor, etc. This was interpreted as a deep cerebral lesion.

DR. SANDERSON: Thank you. Dr. Chipman, would you help us look at some of the x-rays particularly the carotid arteriograms.

\*\*DR. CHIPMAN: The right carotid arteriogram is unremarkable. On the left you see an increased space between the vessels and the skull which is a finding often seen in a subdural hematoma as suggested in the protocol. I see no other diagnostic changes.

\*\*\*DR. WALTER K. SOSSEY: Was there ever evidence of localization of neurologic findings in this case?

DR. CHIPMAN: No.

DR. SANDERSON: I have some difficulty interpreting all the data. Unfortunately, there was no localization of the neurologic findings. In this case we have a woman who was somnolent for several months and came to the hospital dehydrated with a blood pressure of 70/50. This depleted condition makes one wonder about a metabolic disturbance. This lady had an elevated carbon dioxide content, but unfortunately blood gas studies were not reported. Nor were

\*Pathologist, Sioux Valley Hospital, Assistant Professor of Pathology, School of Medicine, University of South Dakota.

\*\*Neurologist, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.

\*\*\*Intern, Sioux Valley Hospital.



the results of multiphasic screening on the auto-analyzer available.

DR. BARLOW: This is an old case and predated both the arterial blood gas and multiphasic testing era.

DR. SANDERSON: There was a questionable mass in the right upper quadrant, but there were no further studies other than the liver function studies. The depressed total protein and albumin are consistent with her debilitated condition. The  $T_3$  was normal, but the protein bound iodine was elevated. We have seen a few elevated PBI's in the last few months and perhaps this was due to some previous X-ray or medication. I do not think she was on estrogen therapy which would elevate the PBI. I am going to disregard the PBI as being a contaminant. I think the significant findings in the spinal tap were the high protein and the fact that there are five polynuclear cells. The reports of urinary steroids are interesting. The creatinine is low which would indicate a less than 24 hour volume suggesting maybe that some of the urine was thrown out. I do not know whether she had a catheter in. The 17 ketosteroids are borderline low. Particularly disconcerting was the 17 hydroxy value on the second determination which was extremely low as compared to the first value. These steroid values would certainly go along with adrenal insufficiency or Addison's disease. This would correlate with her dehydration and low blood pressure. However, the normal electrolytes deter me from making the diagnosis of adrenal insufficiency. I would expect the sodium to be lower and potassium to be higher. Fever is usually not seen in Addison's disease. The electrocardiographic findings are consistent with adrenal insufficiency.

I think I might mention some of the things which could cause somnolence and coma. Intracranial lesions which can give a decreased level of consciousness include infarction from thrombosis or embolism, hemorrhage including not only intracerebral hematomas, but also subdural hematomas and subarachnoid hemorrhage, brain neoplasms — primary or metastatic; and brain abscess. I do not believe the patient had a subdural hematoma as I would have expected her to have had headaches and a history of trauma. At operation she did not have a subdural hematoma. A patient with a brain abscess may or may not have fever. The polymorphonuclear cells from the spinal fluid may point to this diagnosis.

Among the metabolic diseases as a cause of coma are profound anemia, hypoxia, decreased

arterial blood flow due to arteriosclerosis or hypotension (which the patient had), hyperglycemia with acidosis in diabetes mellitus and hypoglycemia from pancreatic adenoma. Uremia, myxedema, and liver failure can cause coma. The patient had a normal  $T_3$  and no good evidence for advanced renal or hepatic disease. Hypercalcemia due to hyperparathyroidism can cause coma. We did not have a calcium determination on this lady. Acute and chronic meningitis can cause coma. There is no evidence of acute meningitis in this lady, but one of the forms of chronic meningitis may have been present. Tuberculous meningitis, cryptococcal meningitis, or toxoplasmic meningitis are possibilities. Any one of the viral encephalitides might have given this picture. Parasites such as echinococcus from dog tapeworm or cysticercosis from the pork tapeworm, taenia solium, can cause coma. Lymphomas involving the base of the brain might have produced this picture. Lymphoma is unlikely because the patient had no enlarged lymph nodes except for a questionable mass in the abdomen.

I want to come back to my diagnosis of brain abscess. Brain abscesses are usually associated with osteomyelitis of the skull secondary to mastoid or sinus infection or trauma to the skull. These were not present in this case. However, brain abscesses can occur from an infection elsewhere in the body such as in the lungs. Metastatic abscesses may occur in the brain often associated with chronic bronchitis or bronchiectasis. Bacterial endocarditis can also give rise to brain abscess. Brain abscesses may appear secondary to a fracture of the skull which she did not have. Patients with brain abscess usually have an elevated cerebrospinal fluid pressure which the patient did not have. The protein is usually elevated, but the cell count may or may not be elevated depending on how well the abscess is encapsulated. Again I am going to grasp at the polys in the spinal fluid.

Post-operatively the patient had a very high sodium and a moderately low potassium. This suggests hyperaldosteronism. Since I have already suggested Addison's disease, it is hard to make the diagnosis of hyperaldosteronism and Addison's in the same patient.

DR. BARLOW: Unfortunately, I left out that there was marked output of urine in the week prior to death when the patient was developing her marked hypernatremia. Outputs of 4500, 3800, 3500 all exceeding intake were found.



DR. SOSSEY: Do you know the specific gravity on those urines?

DR. BARLOW: No, I don't.

DR. SANDERSON: I suspect that the process was diabetes insipidus due to a central lesion in the thalamus or hypothalamus producing diabetes insipidus.

#### DR. SANDERSON'S DIAGNOSIS

1. CEREBRAL ABSCESS OR TUMOR IN REGION OF HYPOTHALAMUS WITH
  - A. ? ADRENAL INSUFFICIENCY
  - B. ? DIABETES INSIPIDUS

DR. SOSSEY: I think it should be pointed out that this lady was very dehydrated when she came in and still only had a urine specific gravity of 1.012 which indicates she had some diabetes insipidus early.

DR. CHIPMAN: I think one of the things you have to explain in this case is why was there hemorrhage. Was this hemorrhage into a neoplasm? Certainly spontaneous hemorrhage in this region is rare.

\*DR. GREGORY NAUGHTON: I think patients whom we put on anticoagulants have bleeding phenomenon. There is often a cause for that bleeding. If a patient has sudden bleeding from the gastrointestinal or urinary tract often there is a tumor or other lesion that can be picked up if there is investigation. Certainly, in this case there could have been bleeding into a primary or secondary tumor. I am very suspicious of this mass that was present in the abdomen and not carefully followed up. I wonder if secondary tumor in the brain is not a likely possibility in this case. I certainly think that the patient had the classic signs of diabetes insipidus, probably due to hypothalamic involvement with very high sodium and low potassium.

DR. BARLOW: Dr. Rossing, you managed this patient, would you like to comment on her?

\*\*DR. WILLIAM ROSSING: I think that we knew this patient had adrenal insufficiency. Even if the steroid values had been 100% wrong, they still would have been low and we took this as good evidence of adrenal hypofunction. Whether this was primary or secondary, we were not sure. It was hard to explain her increasing somnolence.

DR. NAUGHTON: How much steroid did you give her?

DR. ROSSING: It amounted to about 150 of solumedrol daily.

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\*\*Internist, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.

DR. SANDERSON: I think that the urinary values could have been correct and this was adrenal insufficiency. However, the Schilling test was also only 4% with a normal of 8% and some degree of renal insufficiency may explain the low urinary values for the Schilling and steroids.

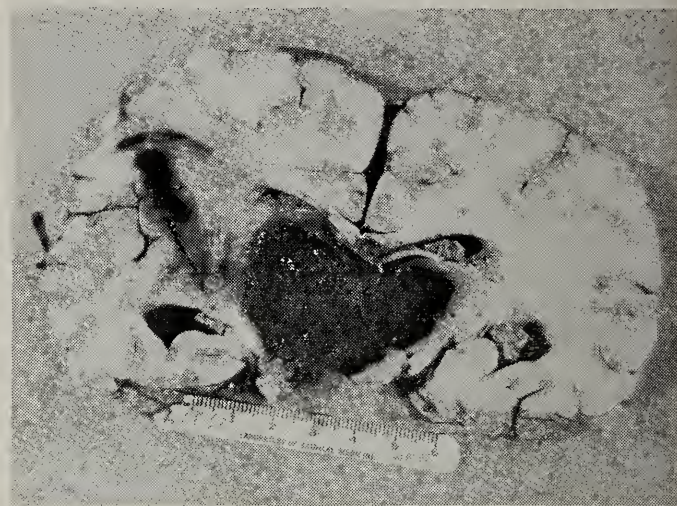
DR. NAUGHTON: Why was the Schilling test done?

DR. CHIPMAN: A rare cause of somnolence and coma is vitamin B-12 deficiency.

#### **PATHOLOGIC FINDINGS**

DR. BARLOW: The pathologic findings in this case were extraordinary. The first picture shows a massive hemorrhage in the region of the brain stem and basal ganglion. Here is another section of the brain stem to show the extensiveness of the hemorrhage. (Fig. I & II) This is an unusual

Figure I.



Massive hemorrhage involving thalamus and hypothalamus.

Figure II.



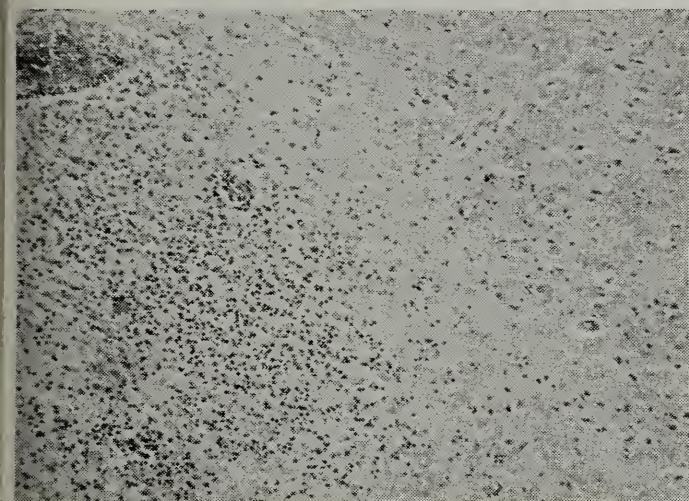
Extension of hemorrhage into brain stem.

place for spontaneous hemorrhage. This photomicrograph shows that there is a cellular area



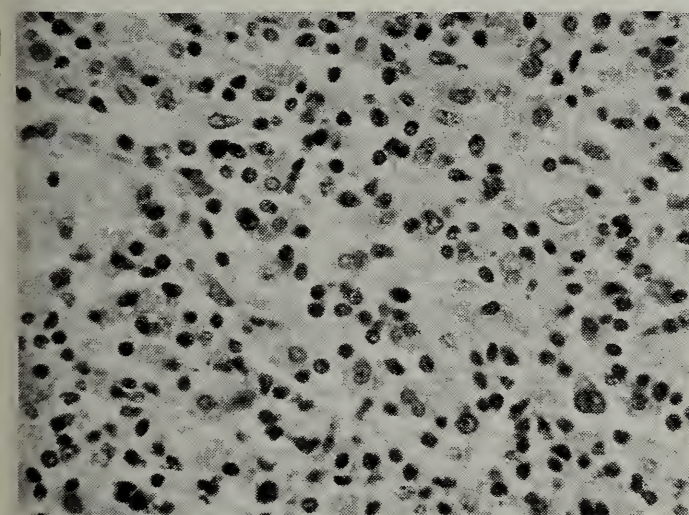
near the hemorrhage. On higher power there were multiple hyperchromatic tumor cells with marked polymorphism. (Fig. III & IV) These cells tend to cluster around vessels and are probably either glial in character or represent so-called microgliomatosis or so-called reticulum

Figure III.



Poorly circumscribed invasive cellular tumor on left of picture invading normal hypothalamus on right.

Figure IV.



High power of malignant primary brain tumor.

cell sarcoma of the brain. At any rate it is a highly malignant, poorly circumscribed tumor. Its location can certainly explain the terminal diabetes insipidus. The adrenals were atrophic and weighed 11 grams together. I think this supports the clinical diagnosis and the laboratory data suggesting hypofunction of the adrenal glands. The thyroid weighed 15 grams and was slightly atrophic. There was severe left lower lobe and right lower lobe bronchopneumonia. Pancreatitis with focal fat necrosis was also present.

DR. NAUGHTON: Was there anything in the abdomen?

DR. BARLOW: No, there was no tumor, just

the focal pancreatitis. I might show a picture of the aorta which demonstrates an aorta completely free of atherosclerosis. There was very little atherosclerosis in the coronary vessels or the vessels of the circle of Willis. We have had two brain tumors which showed hemorrhage after anticoagulation for "stroke." Although both of these tumors were highly malignant and inoperable, I think one has to be careful before putting a patient on anticoagulation since brain tumor or brain hemorrhage must be ruled out first. I might also mention one of my favorite points. All people over the age of 50 do not have generalized atherosclerosis and all of their symptoms can not be attributed to this disease.

#### FINAL ANATOMIC DIAGNOSES

1. ASTROCYTOMA, GRADE III  
HYPOTHALAMIC REGION WITH MASSIVE HEMORRHAGE AND EXTENSION OF HEMORRHAGE INTO BRAIN STEM, CEREBELLUM AND BASAL GANGLION.
2. ATROPHY OF ADRENALS
3. ATROPHY OF THYROID
4. BRONCHOPNEUMONIA, LEFT LOWER LOBE, CONFLUENT AND RIGHT LOWER LOBE, FOCAL
5. DIVERTICULOSIS
6. PANCREATITIS WITH FOCAL FAT NECROSIS
7. DUODENITIS, CHRONIC, MODERATE

DR. CHIPMAN: I think that the somnolence before the patient had her massive hemorrhage certainly indicated something was wrong with the region of the hypothalamus and the ventricular core of the midbrain.

DR. NAUGHTON: Wouldn't you think she would have some eye signs with all the mid-brain disturbance?

DR. CHIPMAN: I think that there was such massive destruction that the patient did not have any eye signs at all.

DR. BARLOW: I think the diabetes insipidus in this case was not much of a problem because she died of a tremendous hemorrhage, but post surgical diabetes insipidus can lead to massive dehydration with death especially in a comatose patient. Diabetes insipidus also evidently can be due to some new anesthetic agents such as methoxyflurane (penthrane).

DR. NAUGHTON: We have had a most interesting case with diabetes insipidus secondary to penthrane anesthesia. This was approximately four weeks ago in a man who had had two successive operations under penthrane anesthesia.



The sodiums were up over 160 and the chlorides up over 130 meq/L. after surgery. The problem was obscured because he had many other complications such as dehiscence of the wound and gram negative septicemia. I had not heard of this entity and this man was losing water rapidly. We just kept giving him dextrose and water to the amount of 4-6 liters a day. At first we thought he was losing this fluid into his bowel, but we began to realize that he was losing it through his urinary tract only. After I had gotten him out of the woods, I was informed about this problem with penthrane. I have had other problems with penthrane when I was in the service. The major problem then was the fact that I could not wake the patient up very well after surgery.

\*DR. MAYER: This is self-limited, is it not?

DR. NAUGHTON: Yes, it is. All you have to do is give water replacement.

DR. SOSSEY: There seems to be a lot of problems with penthrane and people are going more to the older anesthetic techniques such as cyclopropane. There is evidently a problem with precipitation of the crystals in the kidney when antibiotics and penthrane are used together.

DR. SANDERSON: In patients with this type of diabetes insipidus is chlorthiazide helpful?

DR. NAUGHTON: I'm not sure. I think just water replacement is adequate because the disease is self-limited.

\* Intern, Sioux Valley Hospital.

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#### ANNOUNCEMENT

The Department of Psychiatry of the University of Minnesota Medical School and the Minnesota Academy of General Practice announce a continuation course in Office Management of the Emotionally Disturbed Patient which will be held March 18-20, 1971, at the Nolte Center for Continuing Education on the Minneapolis Campus. This program is presented through the Office of Postgraduate Educational Activities. Program is acceptable for 16½ prescribed hours by the American Academy of General Practice. Contact: Director, Continuation Medical Education, Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455.

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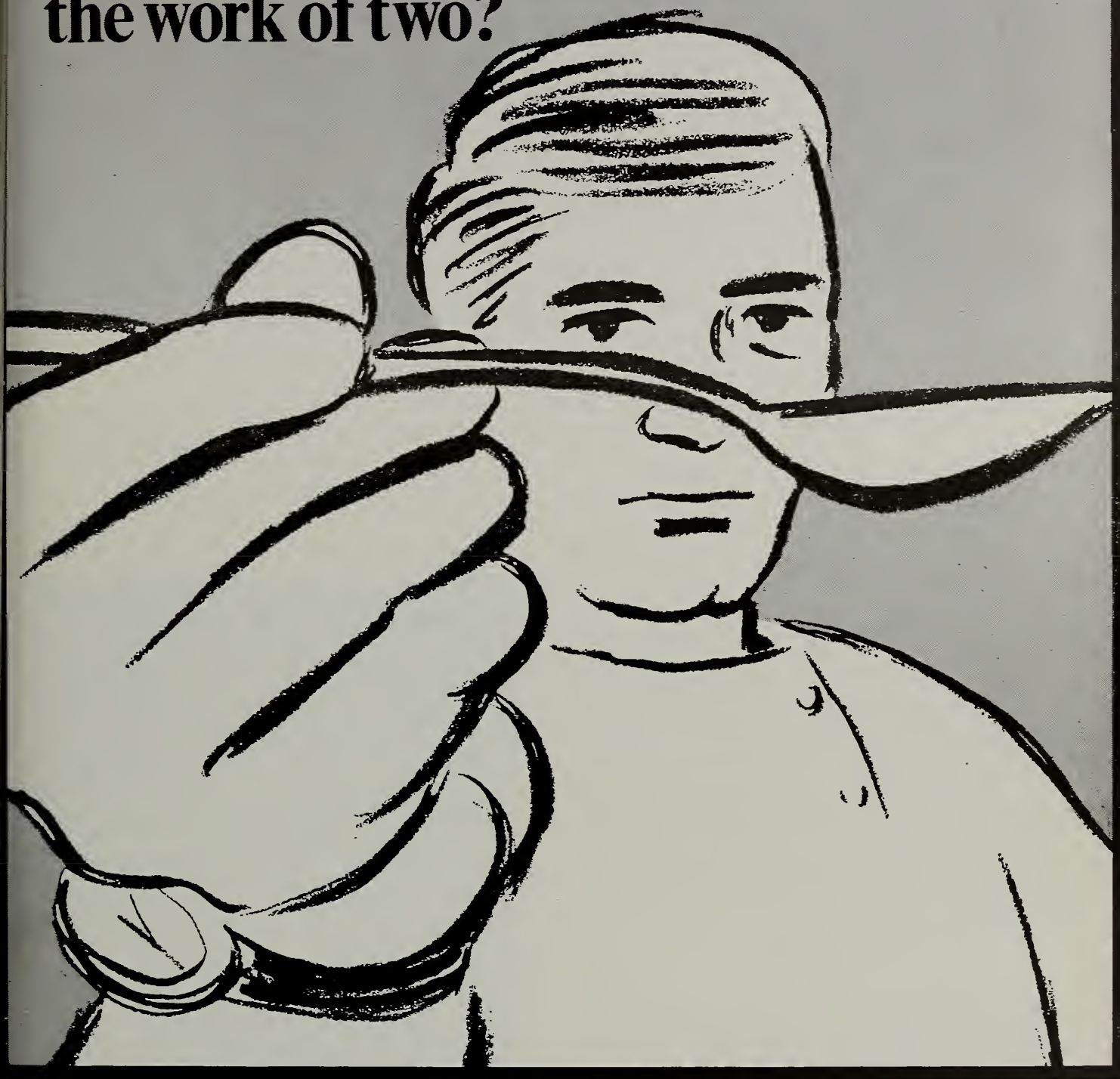
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# Letters to the Editor

433 Cottage-D  
Vermillion, South Dakota 57069  
December 12, 1970

Mr. Richard C. Erickson  
Executive Secretary  
South Dakota State Medical Association  
711 North Lake Avenue  
Sioux Falls, South Dakota 57104

Dear Mr. Erickson:

I would like to thank the South Dakota State Medical Association for their providing part of the funds for my travel expenses to the AMA Clinical Meeting in Boston. This was an invaluable educational experience, which has greatly stimulated my interest in the AMA.

I find it very encouraging to see the physicians in our state recognizing the importance of acquainting the students with the operations of the AMA.

The hospitality shown Todd Biegler and me by the South Dakota Delegation was genuinely appreciated. I would also like to thank them for their support of the SAMA-MECO Resolution. Thank you.

Sincerely,  
June Heilman

## AVERAGE CITIZEN PAYS SMALLER PART OF HEALTH CARE TODAY

A smaller share of the private citizen's personal income is now being spent for medical costs than in 1965. According to a Social Security Administration report, "Public health programs are, in fact, taking over some of the burden on consumers for financing the high costs of medical care and are leaving a greater proportion of the consumers' income for other items." The report showed that in 1929 the average consumer paid 3.5 percent of his disposable personal income for health purposes. By 1965 the figure rose to 6 percent, but by 1968 had dropped to 5.6 percent.

Dear Mr. Erickson,

Would you please convey my thanks to the State Medical Association for providing the money to finance my trip to Boston for the National AMA convention.

Holiday greetings,  
Sincerely,  
Todd Biegler  
Student Representative  
SAMA  
U. of South Dakota



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## REGIONAL MEDICAL LIBRARY – REGIONAL MEDICAL PROGRAM COOPERATION

by

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Vermillion, South Dakota

The Regional Medical Library (RML) system has divided the United States into ten regions, the Mid-Continent region being but one of these geographically-established regions. The Mid-Continent region (see figure one) is easily the largest geographically, yet represents the smallest population concentration, a total of 12,940,000 in a land area of 663,966 square miles with a population density of 19.5 persons per square mile. The majority of the population is in Missouri; Wyoming and South Dakota being the smallest and least densely populated; and Kansas, Nebraska, Colorado, and Utah in between.

As early as 1965, medical librarians in the greater St. Louis area were exploring the possi-

bilities of cooperative utilization of medical library resources. Although several meetings were held in the area, it was not until early in 1968 that twenty-two persons representing seven states' medical libraries and schools of medicine met in St. Louis to seriously consider, and attempt to formulate, plans for the development of a regional medical library system. The outcome of this meeting was the formation of a loosely-knit consortium of university medical libraries given the task of formulating a workable policy which was to underwrite the basis of an organization still in the neophytic stage. The consortium's first concrete developments were the drafting of a set of governing by-laws and the draft of an application to the National Library of Medicine for funds to establish the region as an official entity in the amalgam of regional systems. This application was submitted to Washington in the latter part of 1969; the grant being awarded by the National Library of Medicine effective as of March 1, 1970. At this point the now-existent Mid-Continent Regional Medical Library system was born.

Member states include Missouri, Kansas, Nebraska, South Dakota, Colorado, Wyoming and Utah. Member medical school libraries include:

Fig. 1: States included in the Mid-Continent  
Regional Medical Library





Washington University, St. Louis University, Kirksville College of Osteopathy, the University of Missouri, the University of Kansas, the University of Nebraska, Creighton University, the University of Colorado, The University of South Dakota, and the University of Utah. Non-medical institutions represented are: Linda Hall Library (Science and Technology in Kansas City) and the University of Wyoming; Schools of Dentistry represented include, Washington University and the University of Colorado (due to open in 1971). Also represented are the Meninger Clinic in Topeka and the Colorado State Veterinary School. The basic function of the Regional Medical Library network is to provide the physician and the allied health team with access to the literature in their respective fields with a minimum lapse of time.

Table one indicates the distribution of allied health professionals and the distribution of hospitals and nursing homes within the State of South Dakota. It is interesting to note that there are eleven out of sixty-seven counties that have neither M.D. or D.O. representation and twenty-five out of sixty-seven counties are without hospital facilities. The majority of the counties do not have recourse to adequate medical library facilities exclusive of individually-owned collections maintained by individuals themselves.

The University of South Dakota Medical School Library's integral function in this network is twofold. First to provide the health team within the State with ready access to the literature; and, second, to upgrade the existent medical library service within the State by providing seminars for persons serving as medical librarians on the local scene. The medical school librarian, when requested, will also serve as a consultant to other medical libraries or public libraries having medical collections within the State. The University of South Dakota Medical School Library is the only large medical library within the State and, therefore, must reflect and support all medical education and research endeavors within South Dakota. Thus, in cooperation with the Regional Medical Program, the Medical Library and the School of Medicine, both located in Vermillion, are concerned with providing the health care members of the community, both urban and rural, with the latest information about heart diseases, cancer, stroke, and related diseases. The Medical School Library staff are aware of the responsibility for filling the information needs of personnel in the medical as well as the allied health professions throughout the State, as well as all patrons,

actual and potential, who lack direct access to medical library services.

Methods through which the Medical Library of The University of South Dakota, in cooperation with the Regional Medical Program, intends to implement this function may include the answering of short reference questions; compilation of subject bibliographies; provision of inter-library loans to obtain materials not readily available locally; verification of manuscript bibliographies; and upon special request, translations of articles not originally written in the English language. It is possible that in cooperation with the Regional Medical Program, a project grant might fund a survey of the State as recommended by the Regional Medical Library.

To implement inter-library loan services, a Union List of Biomedical Serials prepared by the Medical Library Center of New York is in preparation. This multi-volume work will list the serial (journal) holdings of eighteen major medical libraries in the region and will be available as of September 1, 1970. This will enable member state university resource medical libraries to ascertain instantly where a given journal title is located and to request it directly from the source. This ability will "speed up" inter-library loan services and allow rapid literature dissemination to the practicing physician and allied health professionals. With these improved facilities, it is hoped the Medical School Library will be able to provide information with twenty-four hour service from time of the request for service.

Another aspect of service is the establishment of a TWX or WATS line between the member university libraries that are tied in with the regional headquarters at the University of Nebraska. Prior to trying the establishment of an inter-state TWX or WATS line will be the development of a similar line within South Dakota. This line of communication will serve to link out-lying hospitals and communities with the Medical Library at USD's School of Medicine. This will further implement existing modes of communication.

Implementation of this program shall include a continuing education program for persons who are functioning in the capacity of medical librarians within South Dakota. This is to be conducted by the certified medical librarians or their representatives in each of the member states.

This is an effort to assist these persons to update their procedures and policies so as to pro-



Table 1

Distribution of Health Professionals and Facilities by Counties in South Dakota, 1970.

## Categories of Health Professionals\*

County	MD	DO	RN	LPN	DDS	RPh	SE	MT (ASCP)	DVM	Hosp	NH
Aurora	1	0	15	0	1	3	0	0	1	0	1
Beadle	20	1	126	13	10	16	0	2	7	1	3
Bennett	2	0	8	5	1	2	0	0	1	1	0
Bon Homme	5	1	31	9	4	5	0	0	3	1	2
Brookings	14	0	109	13	10	33	3	1	8	1	3
Brown	38	0	218	56	20	27	6	7	5	1	3
Brule	3	1	34	9	2	5	0	0	3	1	2
Buffalo	0	0	1	0	0	0	0	0	0	0	0
Butte	6	0	28	3	4	11	1	1	3	1	4
Campbell	1	0	4	0	0	2	0	0	1	0	0
Charles Mix	5	1	45	9	5	6	0	0	3	4	2
Clark	1	0	14	1	1	6	0	0	3	4	1
Clay	9	0	69	10	8	10	0	3	4	1	3
Codington	24	1	105	38	16	16	1	1	9	2	6
Corson	1	0	10	4	0	1	0	0	0	1	0
Custer	3	1	15	1	1	4	0	0	0	1	0
Davison	21	0	140	60	10	19	1	3	7	2	6
Day	4	0	38	11	5	9	0	0	1	0	3
Deuel	1	0	25	3	1	1	0	0	2	1	1
Dewey	0	0	2	3	1	1	0	0	0	1	0
Douglas	1	0	27	6	1	2	0	0	2	1	2
Edmunds	2	0	15	5	2	2	0	0	2	1	2
Fall River	10	0	52	13	5	10	0	0	3	2	2
Faulk	2	0	19	11	2	4	0	0	2	0	1
Grant	6	0	32	8	4	8	0	1	2	0	2
Gregory	4	0	27	7	2	3	0	0	2	2	2
Haakon	1	0	10	3	2	2	0	1	1	1	0
Hamlin	3	0	24	9	3	6	0	0	3	0	2
Hand	3	0	31	7	2	6	0	1	3	1	1
Hanson	0	0	23	7	1	1	0	0	4	0	0
Harding	0	0	0	0	0	0	0	0	0	0	0
Hughes	18	1	75	46	5	11	5	1	8	1	2
Hutchinson	8	1	28	21	5	7	0	1	6	2	5
Hyde	0	0	8	3	1	2	0	0	2	0	1
Jackson	2	0	7	5	0	1	0	0	0	0	1
Jerauld	1	0	9	2	2	1	0	0	0	1	1
Jones	1	0	5	1	1	1	0	0	0	0	0
Kingsbury	3	0	21	12	6	7	0	0	5	2	3
Lake	10	0	58	13	7	7	0	0	2	1	2
Lawrence	15	1	85	21	13	11	2	5	1	3	8
Lincoln	5	2	58	15	4	10	1	1	4	0	3
Lyman	2	0	7	4	4	0	0	0	1	0	0
McCook	1	0	22	8	2	6	0	0	5	0	2
McPherson	1	0	31	0	2	4	0	0	1	2	1
Marshall	4	0	18	2	1	8	1	0	2	0	1
Meade	5	4	70	8	5	10	0	0	2	2	4
Mellette	1	0	4	1	0	2	0	1	0	0	1
Miner	1	0	22	4	3	2	0	0	2	0	1
Minnehaha	120	2	672	270	53	74	4	25	28	4	12
Moody	2	0	27	7	2	5	0	0	4	1	1
Pennington	63	3	341	66	37	51	2	7	10	4	15
Perkins	3	0	14	5	2	3	0	0	0	1	1
Potter	3	0	23	11	3	3	0	1	2	1	1
Roberts	4	0	40	14	4	6	0	0	1	2	3
Sanborn	0	0	12	3	0	2	0	0	2	0	2
Shannon	0	0	12	0	0	2	1	0	0	1	0
Spink	8	0	54	8	3	7	0	1	3	1	3
Stanley	0	0	5	4	1	1	0	0	1	0	0
Sully	1	0	6	4	0	21	0	0	0	0	0
Todd	0	0	18	8	2	1	0	0	0	1	0
Tripp	5	0	24	10	2	5	0	0	3	1	1
Turner	7	0	36	9	6	7	0	0	7	1	4
Union	1	1	18	6	5	7	0	0	6	0	2
Walworth	7	0	32	7	4	8	1	0	3	1	2
Washabaugh	0	0	0	0	0	0	0	0	0	0	0
Yankton	31	1	157	33	12	13	1	8	4	2	4
Ziebach	0	0	2	0	0	0	0	0	0	0	0

\*Categories of Health Professionals:

MD — Doctor of Medicine  
DO — Doctor of Osteopathy  
RN — Registered Nurse  
LPN — Licensed Practical Nurse  
DDS — Doctor of Dentistry  
RPh — Registered Pharmacist

SE — Sanitary Engineer  
MT(ASCP) — Registered Medical Technologist  
DVM — Doctor of Veterinary Medicine  
Hosp — Hospital  
NH — Licensed Nursing Home



vide adequate and efficient service on the local level and to utilize local resources before turning to the University for assistance. This is two-fold in its purpose: first, not to overburden the central source; and, second, not to undermine local resources.

When requests are made Xerox copies will be sent in lieu of the original volumes, as it is the concerted opinion of the executive and advisory committees of the Regional Medical Library that the original materials should be retained within the source library so as not to deprive its users of access to the materials. Xerox copies are to be furnished at 10 cents per page on the local or in-state level. Out-of-state requests will be provided on a pro-rated basis relative to the cost of the material which has been requested. Member university medical librarians are to survey the medical library facilities within their respective states to determine the existing services and to upgrade or strengthen them where possible. This will be done by first surveying existent medical library holdings and providing, when requested, outlying medical libraries with supplemental materials (when available). Secondly, the development of a Union List of medical periodical holdings and their locations within the State of South Dakota. And, thirdly, by

conduction of continuing education seminars and workshops in cooperation with the Regional Medical Program for South Dakota's medical librarians.

These services are expected to be fully operational as of September 1, 1970, and members of the medical and the allied health professions are cordially invited to write or telephone the Medical Library at any time. The address and phone number of the Medical Library are:

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## MINUTES OF THE COUNCIL MEETING

11:30 A.M.

Ramada Inn

Saturday, Jan. 9, 1971

Sioux Falls, South Dakota

The meeting was called to order by Dr. H. R. Lewis, chairman of the Council. Those present for roll call were Doctors J. A. Muggly, G. R. Bartron, W. R. Taylor, A. P. Reding, R. H. Quinn, J. J. Stransky, H. R. Lewis, David Seaman, G. E. Tracy, Bruce Lushbough, C. L. Swanson, Fred Leigh, E. T. Lietzke, Duane Reaney, E. T. Ruud, M. R. Cosand, J. E. Ryan, J. B. Gregg and John F. Barlow. Also in attendance were Mr. Todd Biegler, student representative to the Council, Mr. Bob Warnick, AMA field service representative, Mr. Richard Erickson, Mr. Robert Johnson and Mr. Randall Tuffs.

Dr. Lietzke moved to dispense with the reading of the minutes of the last Council meeting inasmuch as they have been published. The motion was seconded by Dr. Tracy and carried.

The Council reviewed the report of the Commission on Legislation and Governmental Relations.

### REPORT OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

Submitted on December 4, 1970

There have been no formal meetings of the Commission since the last report to the Council. A meeting concerning the future development of the Medical School of the University of South Dakota is to be held and will be attended by the Chairman of this Commission on December 5. If any information pertinent to the Legislative Commission comes from this meeting, the Council will be informed at the meeting January 9.

J. B. Gregg, M.D.

Chairman

Commission on Legislation  
and Governmental Relations

Mr. Erickson explained a bill which will be proposed by the Hospital Association concerning the requirement of a "Certificate of Need" prior to the building of a hospital or health care facility costing more than \$100,000. Dr. Bartron moved that the Council take no position on this bill. The motion was seconded by Dr. Swanson and carried. Mr. Erickson outlined a bill which will be proposed by the State Health Department allowing persons under twenty-one to give consent to physicians to make a diagnostic examination and render treatment for venereal diseases without the parents consent. Dr. Taylor moved that the Medical Association endorse this bill. The motion was seconded by Dr. Tracy and carried. The Council considered a bill which would create a four-state regional medical education board. Dr. Bartron moved that the State Medical Association endorse this legislation. The motion was seconded by Dr. Tracy and carried.

Mr. Erickson introduced Dr. David Seaman, new Councilor for the Aberdeen District, and Dr. Duane Reaney, new Councilor for the Yankton District.

The Council considered the report of the Commission on Communications and Liaison and the request from the Bar Association to hold another medical-legal conference in conjunction with Medical School Recognition Days in 1971. Dr. Tracy moved that the Association plan a medical-legal conference for the fall of 1971 in conjunction with Medical School Recognition Days. The motion was seconded by Dr. Lushbough and carried.

There was no report from the Commission on Medical Service or the Commission on Scientific Medicine.

The Council considered the proposed budget established by the Commission on Internal Affairs' Budget and Audit Committee. Dr. Swanson moved that the Council accept the budget as proposed. The motion was seconded by Dr. Muggly and carried.

The Council considered a proposal from a Kentucky printing firm for the North Central states to have a 32 page common section in the Journal. Dr. Tracy

moved that the Association reaffirm its position that the Journal is a house organ for local news and scientific articles and that we are not interested in combining with the North Central states and printing a common scientific section. The motion was seconded by Dr. Lietzke and carried.

Mr. Erickson and Mr. Tuffs presented information pertaining to the physicians' profiles by specialty for the Council's information.

Mr. Warnick showed a film pointing out the facilities and information available to physicians through the American Medical Association for the Councilors' information.

The Council considered a request from Indiana to join the North Central Conference. Dr. Tracy moved that the Council recommend that Indiana not be included in the North Central Conference. The motion was seconded by Dr. Cosand and carried.

Nominations were received for the Distinguished Service Award. A secret ballot was cast and the winner will be announced at the annual meeting awards' banquet.

Nominations were received for the Community Service Award. A secret ballot was cast and the winner will be announced at the annual meeting awards' banquet.

Mr. Erickson reported to the Council on the physician donations to the Greater South Dakota Association for the Council's information. Mr. Erickson was directed to contact the Greater South Dakota Association and request that health care be included in their list of industries.

The Council discussed the issue of charging for the completion of insurance claim forms. Dr. Tracy moved that the Association establish a policy stating that physicians should not charge for the initial completion of the standard claim form for services rendered. Any additional forms may be billed at the discretion of the physician. The motion was seconded by Dr. Lushbough and carried.

The Council reviewed the recommendations of the State Utilization and Insurance Review Committee concerning post operative care. After lengthy discussion Dr. Bartron moved that the Council recommend to the Utilization and Review Committee that they continue to use the present South Dakota Relative Value Study with more flexibility. The motion was seconded by Dr. Leigh and carried.

The Council considered the recommendation of the Blue Shield Board concerning the use of a five digit code for procedural terminology. Dr. Bartron moved that the Council recommend that the Association continue utilizing the four digit code system now in use. The motion was seconded by Dr. Tracy and carried.

A letter from the South Dakota Hospital Association concerning their Association's withdrawal from the South Dakota Research Institute was presented for the Councilors' information.

**WANTED**—General Practitioners in the "Heart of the Black Hills." Well established community with a population of about 2,500, service area of about 6,500. A modern 16-bed general hospital constructed for easy expansion if necessary. At present we have one General Practitioner in town. Our 78-year-old doctor passed away recently. The staff will cooperate fully as desired. The State Hospital for the Severely Mentally Retarded is located 5 miles south of town. Large medical centers are only 45 minutes away. For more details contact: D. C. Kanwischer, Administrator, Custer Community Hospital, Custer, South Dakota 57730.



**DOYLE, BIERLE & HAGERTY**  
**Attorneys and Counsellors**  
**Suite 4 Law Building**  
**Yankton, South Dakota 57078**

November 13, 1970  
John Zimmer, Esquire  
Attorney at Law  
Parker, South Dakota 57053

Dear Mr. Zimmer:

Presupposing that you are still the General Counsel of the South Dakota Health Research Institute we have been directed by the South Dakota Hospital Association to advise that formal action taken by the South Dakota Hospital Association at its annual meeting in Rapid City in September 1970, directed that said Association withdraw from participation in the activities of the Research Institute.

The action of the South Dakota Hospital Association further stated that no members thereof will be designated for participation on the Board of Directors of the Research Institute.

As General Counsel for the South Dakota Hospital Association we would like to cooperate with you in the changes which appear necessary to be made so that the South Dakota Hospital Association nor any of its members thereof remain affiliated with the Health Research Institute. As a matter of preliminary suggestion it would appear that the By-laws of the Research Institute should be amended with more specific attention directed to Article 3 thereof to eliminate the South Dakota Hospital Association therefrom. We shall also secure individual resignations of Mr. Schroeder and Sister Rosaria from the Board of Directors to be filed with the appropriate corporate office. However we did not wish to do this until communication had been made to you regarding the action of the South Dakota Hospital Association. Perhaps you may wish these people to remain as members of the Board until the By-laws can be appropriately amended. If you do not feel this way we feel confident these members shall wish to resign immediately.

Any suggestions you may have to immediately accomplish the withdrawal from participation from the corporate structure of the Research Institute by the South Dakota Hospital Association would be appreciated.

The Board of Trustees of the South Dakota Hospital Association will be meeting on November 18th and if at all possible we would like to hear from you by that time so that your ideas can be forwarded to this group.

Respectfully submitted,

**DOYLE, BIERLE & HAGERTY**

Don A. Bierle  
General Counsel  
South Dakota Hospital Association  
DAB:ml

cc: James P. Steele, M.D.  
Fred D. Leigh, M.D.  
Myron C. Tank, M.D.  
Eugene H. Stearns  
Sister M. Rosaria Kranz  
Lyle E. Schroeder  
Richard Erickson  
J. A. Muggly, M.D.  
William T. Murphy

Dr. Swanson moved that the State Medical Association withdraw from the South Dakota Research Institute. The motion was seconded by Dr. Leigh and carried.

Mr. Erickson explained a request from the Welfare Department for physicians' approval of a report form G-41 (Revised) to be utilized for Title 19 patients. Dr. Tracy moved that the Council accept the physician report form from the Welfare Department, and that physicians accept the fees set forth by the

Welfare Department for the completion of this form. The motion was seconded by Dr. Taylor and carried.

Mr. Erickson discussed the upcoming meeting with the Welfare Commission concerning the proposed cutting of physicians' reimbursement for the care of Title 19 recipients. Dr. Cosand moved that the Association go on record as objecting to the proposed decrease in physician reimbursement and stating that it is the members opinion that physicians will not accept the Welfare Commissions proposal. The motion was seconded by Dr. Lietzke and carried.

Mr. Erickson briefly discussed the annual meeting banquet. The Council determined that the awards should be presented at the banquet and that the banquet should be informal.

Dr. Tracy presented a resolution from the Watertown District Medical Society concerning the establishment of guidelines for an abortion bill, should one be introduced in the 1971 legislature. Dr. Tracy moved that this resolution be adopted by the South Dakota State Medical Association. The motion was seconded by Dr. Cosand. Dr. Reaney moved that the residency requirement in the resolution be deleted. The motion was seconded by Dr. Lushbough. The amendment was defeated. A vote was then taken on the original resolution and this was defeated.

The Councilors heard a tape recording produced by the American Medical Association concerning physician licensure and narcotics and incompetency.

The spring Council meeting was set for Saturday, April 24.

Dr. Lietzke moved that the meeting be adjourned. The motion was seconded by Dr. Leigh and carried.

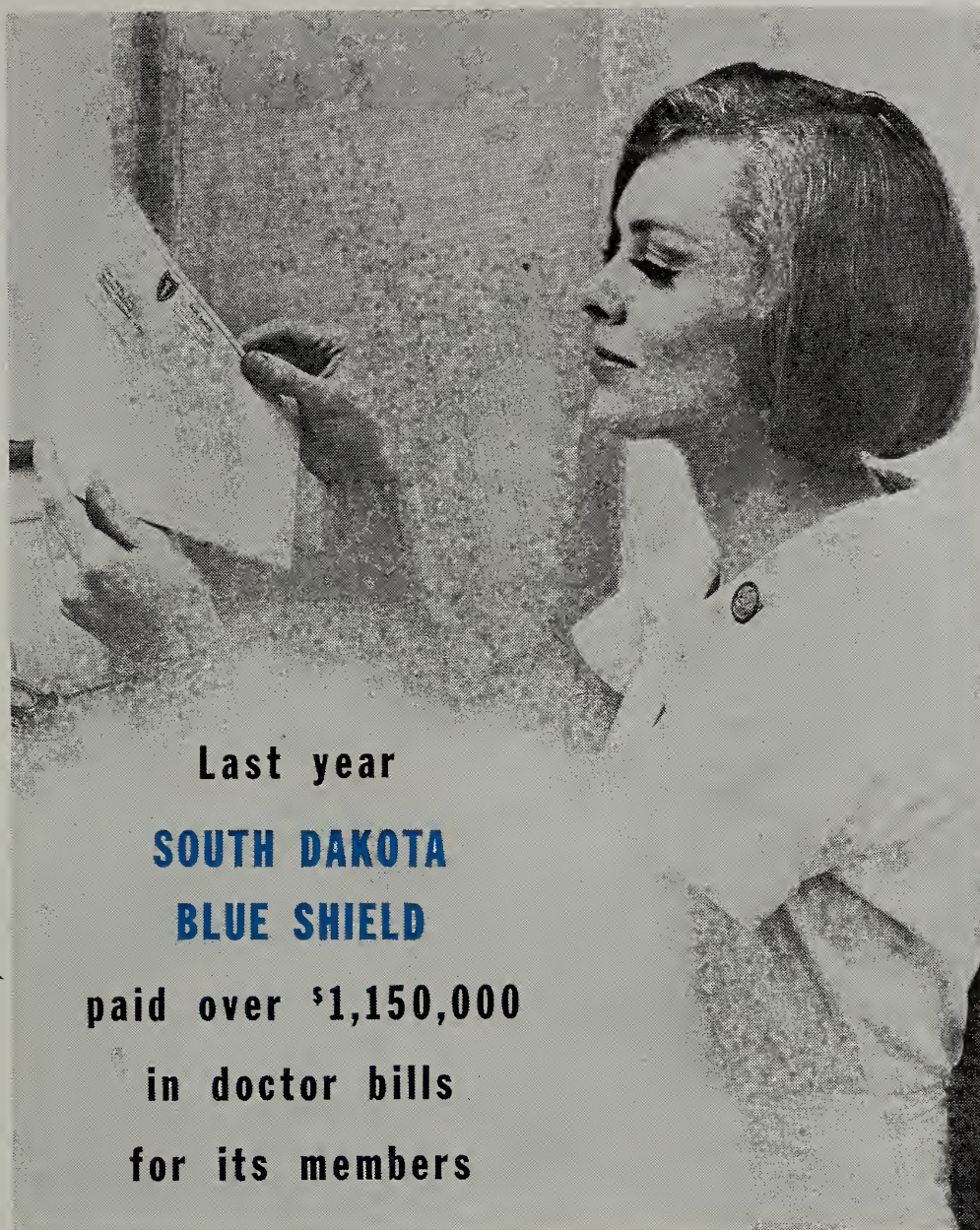
## **CONTROLLING HEREDITY**

Genetic transformation — the replacement of a gene or set of genes for another — is one way heredity can be controlled. Although geneticists cannot mold human progeny, they can control some aspects of bacterial heredity, according to molecular geneticist Arnold W. Ravin. Ravin, a professor of biology at the University of Chicago, can determine successfully the genetic fate of unborn bacteria by injecting normal bacteria cell cultures with genetic material extracted from bacteria which have acquired, by mutation, a resistance to antibiotics such as streptomycin and erythromycin.

## **DOCTOR AIDES EXPECTED TO IMPROVE MEDICAL CARE**

Physician's assistants, in training at Duke University School of Medicine, should eventually improve both the quality and quantity of doctors' efforts, two University faculty members told the 80th annual meeting of the Association of American Medical Colleges. "It is only through their use that we can make maximal use of scarce and expensive professional manpower," Drs. E. Harvey Estes, Jr., and D. Robert Howard said. The Duke physician's assistant program was started five years ago as a two-year course and to date has produced 29 graduates.





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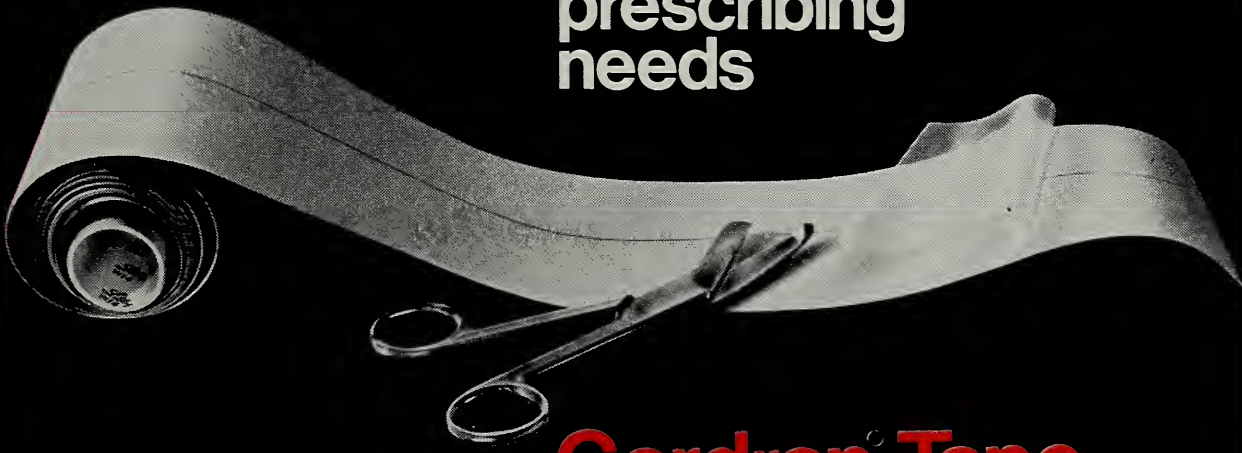
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ANNUAL MEETING — SOUTH DAKOTA STATE MEDICAL ASSOCIATION  
RAPID CITY, SOUTH DAKOTA MAY 21, 22, 23, 1971



# IF MORE MEN CRIED

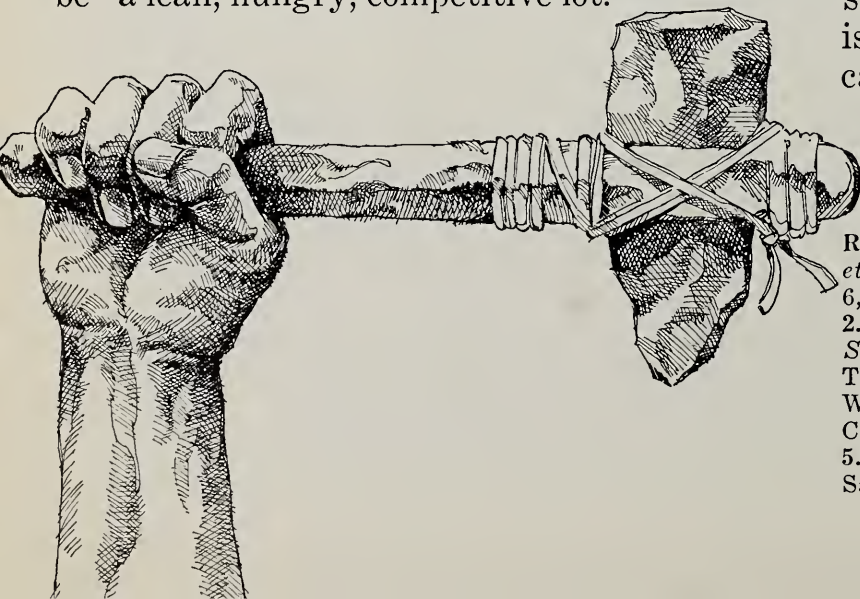


At least seventy-five out of one hundred adults with duodenal ulcers are men.<sup>1</sup>

Why? It may be significant that duodenal ulcer patients tend to crave recognition and are "especially vulnerable to threats to their manly assertive independence."<sup>2</sup>

**Hypersecretion—an atavistic response.** Stewart Wolf, who, with Harold G. Wolff, studied the personalities of duodenal ulcer patients, wonders if masculine competitiveness is related to "an atavistic urge to devour an adversary." It is striking, he reports, that an accentuation of gastric acid secretion and motility can be "induced in ulcer patients by discussions that arouse feelings of inadequacy, frustration and resentment."<sup>2</sup>

**By chance? A lean, hungry lot.** Was the link between emotions and gastric hyperacidity acquired through mutation to serve a purpose? During man's jungle period of evolution, the investigator points out, a male dealt with a foe by killing and devouring it. "It may be more than coincidence," he concludes, that peptic ulcer patients appear to be "a lean, hungry, competitive lot."<sup>3</sup>



**Big boys don't cry.** If more men cried maybe fewer would wind up with duodenal ulcers. But men will be men—the sum total of their genes and what they are taught. Schottstaek observes that when a mother admonishes her son who has hurt himself that big boys don't cry, she is teaching him stoicism.<sup>4</sup> Crying is the negation of everything society thinks of as manly. A boy starts defending his manhood at an early age.



**Take away stress, you can take away symptoms.**

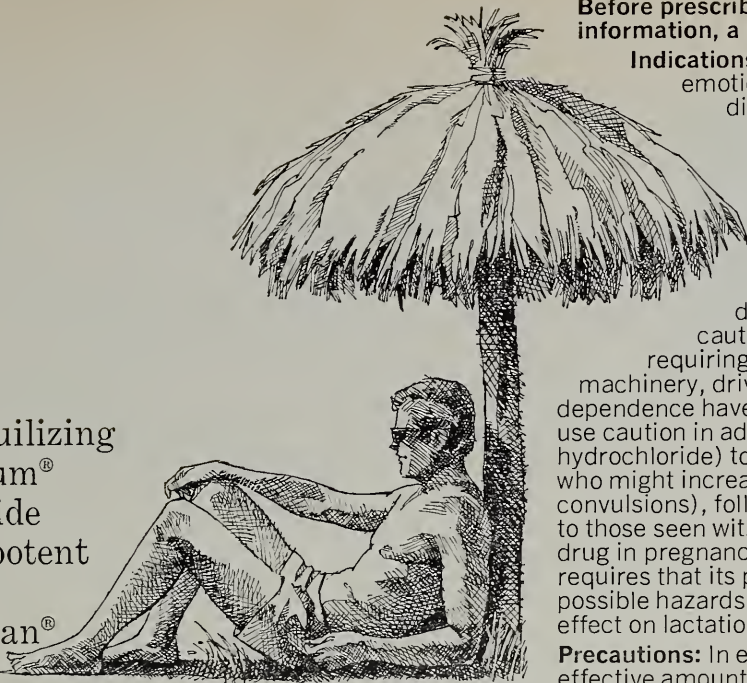
There is no question that stress plays a role in the etiology of duodenal ulcers. Alvarez<sup>5</sup> observes that many a man with an ulcer loses his symptoms the day he shuts out the office and starts out on a vacation. The problem is, the type of man likely to have an ulcer is the type least likely to take long vacations or take it easy at work.

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**References:** 1. Silen, W.: "Peptic Ulcer," in Wintrobe, M. et al. (eds.): *Harrison's Principles of Internal Medicine*, 6, New York, McGraw-Hill Book Company, 1970, p. 14. 2. Wolf, S., and Goodell, H. (eds.): *Harold G. Wolff: Stress and Disease*, ed. 2, Springfield, Ill., Charles C. Thomas, 1968, pp. 68-69. 3. *Ibid.*, p. 257. 4. Schottstaek, W. W.: *Psychophysiologic Approach in Medical Practice*, Chicago, Ill., The Year Book Publishers, Inc., 1960, p. 1. 5. Alvarez, W. C.: *The Neuroses*, Philadelphia, Pa., W. B. Saunders Company, 1951, p. 384.



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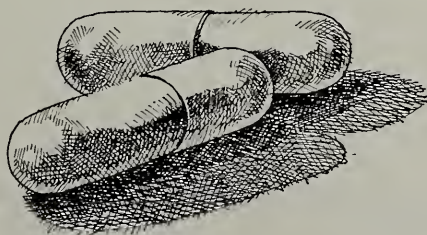


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information, a summary of which follows:**

**Indications:** Indicated as adjunctive therapy to control  
emotional and somatic factors in gastrointestinal  
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**Contraindications:** Patients with glaucoma;  
prostatic hypertrophy and benign bladder  
neck obstruction; known hypersensitivity to  
chlordiazepoxide hydrochloride and/or  
clidinium bromide.

**Warnings:** Caution patients about possible  
combined effects with alcohol and other CNS  
depressants. As with all CNS-acting drugs,  
caution patients against hazardous occupations  
requiring complete mental alertness (e.g., operating  
machinery, driving). Though physical and psychological  
dependence have rarely been reported on recommended doses,  
use caution in administering Librium (chlordiazepoxide  
hydrochloride) to known addiction-prone individuals or those  
who might increase dosage; withdrawal symptoms (including  
convulsions), following discontinuation of the drug and similar  
to those seen with barbiturates, have been reported. Use of any  
drug in pregnancy, lactation, or in women of childbearing age  
requires that its potential benefits be weighed against its  
possible hazards. As with all anticholinergic drugs, an inhibiting  
effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest  
effective amount to preclude development of ataxia, over-  
sedation or confusion (not more than two capsules per day  
initially; increase gradually as needed and tolerated). Though  
generally not recommended, if combination therapy with other  
psychotropics seems indicated, carefully consider individual  
pharmacologic effects, particularly in use of potentiating drugs  
such as MAO inhibitors and phenothiazines. Observe usual  
precautions in presence of impaired renal or hepatic function.  
Paradoxical reactions (e.g., excitement, stimulation and acute  
rage) have been reported in psychiatric patients. Employ usual  
precautions in treatment of anxiety states with evidence of  
impending depression; suicidal tendencies may be present and  
protective measures necessary. Variable effects on blood  
coagulation have been reported very rarely in patients receiving  
the drug and oral anticoagulants; causal relationship has not  
been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen  
with either compound alone have been reported with Librax.  
When chlordiazepoxide hydrochloride is used alone, drowsi-  
ness, ataxia and confusion may occur, especially in the elderly  
and debilitated. These are reversible in most instances by  
proper dosage adjustment, but are also occasionally observed  
at the lower dosage ranges. In a few instances syncope has  
been reported. Also encountered are isolated instances of skin  
eruptions, edema, minor menstrual irregularities, nausea and  
constipation, extrapyramidal symptoms, increased and  
decreased libido—all infrequent and generally controlled with  
dosage reduction; changes in EEG patterns (low-voltage fast  
activity) may appear during and after treatment; blood dyscras-  
ias (including agranulocytosis), jaundice and hepatic dys-  
function have been reported occasionally with chlordiazepoxide  
hydrochloride, making periodic blood counts and liver function  
tests advisable during protracted therapy. Adverse effects  
reported with Librax are typical of anticholinergic agents, i.e.,  
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constipation. Constipation has occurred most often when  
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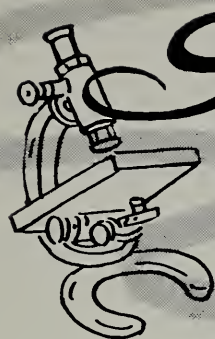
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CONTENTS

Volume XXIV March 1971 Number 3

Vasectomy . . . . .	5
John H. Hoskins, M.D.	
Economics: The Future Development of South Dakota's School of Medicine . . . . .	15
George W. Knabe, Jr., M.D.	
Clinicopathological Conference . . . . .	27
This Is Your Medical Association . . . . .	34
Drug Information Network . . . . .	36
Paul E. Groth, Director	
The Month in Washington . . . . .	40
President's Page . . . . .	43





# Scientific PAPER

## VASECTOMY

John H. Hoskins, M.D.

There is a wave of enthusiasm for ecology and birth control confounded by a shaken public confidence in the "Pill" through the publicity of Government investigating committees. Vasectomy has suddenly become the answer for many people, as a method of contraception. It is really up to the physician in the last analysis to decide whether sterilization is to be performed or not. The following suggestions are meant to help him avoid some potential problems.

Several good discussions of the laws concerning voluntary sterilization have appeared in recent literature.<sup>1,2</sup> They seem to re-emphasize the importance of informed consent. The patient and his spouse should meet with the physician and the procedure should be explained to both of them. A consent form should be signed by both the patient and his spouse, and that consent form should describe in non-technical terms, the procedure to be performed, objectives of the procedure, the need for post-surgical examination, and should state that success is in no way guaranteed. An acceptable consent form follows: (after Davis<sup>2</sup>)

### CONSENT FORM:

I hereby authorize Dr. John Doe, and whomever he may designate as his assistants, to perform upon \_\_\_\_\_ the operation known as bilateral vasectomy.

I fully understand that bilateral vasectomy means the removal of a segment of each vas deferens, each of which conducts sperm. I fully understand that this operation (or operations) will cause sterility in the person operated upon. This is usually but not always permanent. The word sterility means inability to produce children or cause pregnancy in a female partner. I am fully aware of the implications of the operation called bilateral vasectomy.

I understand that this operation in no way affects sexual potency or the sexual act. I understand that in rare cases recanalization of the vas (duct) may occur and, therefore,

semen specimens must be collected for examination at six, nine and twelve month intervals following surgery. I understand that I must present ten consecutive specimens of my semen following the operation (operations) so that the absence of sperm in the semen can be determined.

\_\_\_\_\_  
Patient

\_\_\_\_\_  
Wife

\_\_\_\_\_  
Witness

I would amend this consent form and request semen analyses on the 9th and 10th post-operative semen specimens, not all ten.

The procedure itself can be done in the office or in the hospital. Suitable preparation of the skin should be done, and the vas should be isolated from other elements of the cord and brought up to the posterior scrotal wall where it is best exposed. It can be held in position with the thumb and forefinger, and then an anesthetic agent infiltrated over the vas and surrounding tissues. The vas can then be grasped with either an Allis clamp or towel clip. (Figure A) An incision is made directly down to the vas, which can be grasped again with an Allis forceps, towel clip or freed up with a small curved mosquito hemostat. (Figure B) The adventitia should be dissected away and the denuded vas is then divided and a short segment is removed. (Figure C) It is most important that this short segment be sent to the pathologist for verification and the right and left vas should be labeled as such. The ends of the vas are then ligated with catgut and the lumen of the vas is sometimes fulgurated.<sup>3</sup> The ends are then dropped back into the wound and the skin incision can often be closed with a single suture or sometimes be left without any sutures.

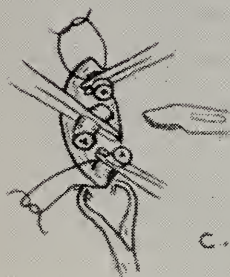




A.



B.



C.

**Figure A.**  
Isolating the Vas

**Figure B.**  
Mobilizing the Vas

**Figure C.**  
Removal of a segment of the Vas

Complications can occur with vasectomy as with any surgical procedure, and have resulted in litigation. Hematoma is rare, but can be a rather spectacular complication. Recorded in the literature is at least one case which was settled out of court for \$1,800, because of a hematoma.<sup>1</sup> A vasectomy performed by a fellow resident in an Institution to the East of us, required 22 units of blood before he finally stopped bleeding. This patient had a chronic leukemia, and had been referred to the Urology Department for an operation on the prostate gland. The resident had been assured that he was in satisfactory condition for the procedure. A vasectomy was done as sort of a trial run, and if the patient went through that all right he was to later have the operation on the prostate. Needless to say no further surgical procedures were anticipated. A short period of observation and instructions to the patient to contact you if there is any sign of hematoma should minimize this problem in the routine vasectomy. Infection could be a possible complication. This is less likely if the procedure

is performed as an outpatient in the hospital or in a room designed and equipped for small procedures in a doctors office. Recanalization of the vas is reported in the literature, and this should be recognized as a possibility in the consent form. It is recommended that semen analysis be done in the post-operative period at stated intervals of 6, 9 and 12 months. Incidence of recanalization is one half of one percent. Sperm granuloma is reported to follow vasectomy in at least 4% of the cases and can be rather an uncomfortable problem to the patient. For this reason some authors have suggested that liga-

(Continued on Page 9)

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(Continued from Page 6)

tion of vas may not be enough and that the lumen of the vas should be fulgurated for a more complete seal.<sup>3</sup> One of the most embarrassing complications for the physician, would be the missing of the vas on one side. This is not an unlikely happening, after local infiltration of the cord structures causes some loss of the firm, smooth, tactile distinction of the vas deferens. In trying to check how often this could happen, we reviewed the specimens submitted by the Urologists in Sioux Falls, South Dakota, when vasectomy was done in conjunction with transurethral resection of the prostate. An incidence was found of 2 to over 10% of cases where tissue was submitted as two vas, but only one was verified microscopically. This suggests that even under conditions which should be more ideal, that is, vasectomy done under spinal or general anesthesia rather than with local infiltration, with the procedure performed by experienced men, there is a significant number of times when tissue other than vas will be removed, and only by submitting the tissue for microscopic evaluation can the physician assure the patient that bilateral partial vasectomy was done.

Follow-up of the sterilization procedure is important as in any other surgical procedure and traditionally patients have been advised that 6 to 8 weeks will be required before the ejaculate will be free of sperm. However, there are numerous series reported where there has been a persistence of sperm up to one year following surgery. The disappearance rate of spermatozoa from the ejaculate following vasectomy is not so much a factor of time, as of ejaculation. Approximately two-thirds of the sperm residing in the vas distal to the vasectomy are ejaculated at each emission. It takes an average of 4 to 10 ejaculations to clear the spermatozoa from the ejaculate.<sup>4</sup> The patient can do this as rapidly as he desires, beginning the day after the operation, using sexual intercourse or masturbation. The physician should check at least 2 specimens post-operatively to verify the absence of sperm in the ejaculate, preferably the 9th and 10th ejaculates. Then, as previously mentioned, because of the remote possibility of recanalization, semen specimens should be checked at 6, 9 and 12 months. One wonders, however, if the percentage of recanalization is less than reported and if a few cases of missed vas at the initial operation have suggested a higher incidence.

In Summary: Vasectomy has become a popular form of birth control. Just over the horizon

other methods of birth control are soon to be available, such as a male "Pill" and safer female "Pills." Vasectomy done with reasonable care is an effective method of birth control, but it does have complications, as would any surgical procedure. A careful consent, careful procedure, and adequate post-operative care can be provided by most physicians. Pathologic verification of the removal of a segment of vas from both sides is necessary.

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# Gone with the wind





# ECONOMICS



## THE FUTURE DEVELOPMENT OF SOUTH DAKOTA'S SCHOOL OF MEDICINE

George W. Knabe, Jr., M.D.

The medical school was established in 1907 and originally designated "The College of Medicine of the University of South Dakota." The purpose, as stated in the Tenth Biennial Report of the Board of Regents of 1907-1908, was "... in order to meet the demands of the students of this state for facilities whereby they can obtain a thorough course in medicine . . . ." The report also advised that, "The University does not plan in the near future to give more than two years of a four-year course in medicine." Since then the school has enlarged and its educational program has expanded and become more complex. However, it still offers only a two-year course in medicine. Of the long-established traditional two-year schools, only two now remain, those of North Dakota and South Dakota. The basic science programs which have been established in recent years are all considered initial phases in the development of four-year medical schools.

The conversion of South Dakota's school into a full four-year medical school has been considered on many occasions in the past. Attempts to promote this were made during the terms of almost every dean of the medical school. These attempts did not meet with success, mainly because adequate clinical teaching resources were not readily available and it was not possible to secure commitment of sufficient funds to establish and operate a four-year program. These efforts were of value, however, in arousing interest and concern about the school and thus probably contributed to its receiving continued state support.

The medical school has served the state well.

Over the years it has provided an opportunity for many young men and women to enter the career of medicine, and a significant number of these have returned to practice in South Dakota. In recent years, however, it has become increasingly apparent to the faculty and to others concerned with the program that this traditional, two-year, primarily basic science school cannot successfully continue operating in its present form for many years longer. For one thing, rather dramatic changes in the character of medical education are occurring which are affecting our students' ability to transfer to other schools for completion of their training. Also, medical schools are being expected to assume increasing responsibilities in the planning and delivery of health services, and a two-year school has few resources in these areas. In addition, it has long been a matter of concern that the graduates, who complete their education in other medical schools, often do not return to practice in South Dakota. The Administrative Committee of the School of Medicine, voicing the concern of the faculty over these and other limitations of the two-year medical education format, recommended to the President of the University in December, 1967, that consideration be given to eventual establishment of a four-year program. The Committee also urged that a comprehensive study of the medical school and its future be promptly undertaken.

Although the medical school recommended in 1967 the advisability of ultimate establishment of a four-year school, it has been preoccupied since that time with maintaining the existence of the present two-year program. The institu-



tion has been in serious financial straits as revealed in presentations to the university administration, the Board of Regents, State legislative committees, and the Governor, as well as to medical groups and others. While some improvement in the financial status has occurred recently, the principal objective for the immediate future will still be mainly to strengthen the medical school so that it can adequately fulfill its present mission. Since it is generally conceded that the best foundation for a four-year program would be a strong two-year medical school, an attempt is being made to build the foundation strong enough so that it can support the third and fourth years of medicine. Consistent with both short-term and long-term goals, special attention and effort is being directed to the following areas:

- Restructuring and modernization of the medical curriculum, including further organization and expansion of the clinical instruction program.
- Development of needed new divisions and departments, such as Community Medicine and Family Practice.
- Organization of additional programs of instruction in the paramedical, parodontal,

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**Physical and Psychological Dependence:** Physical and psychological dependence rarely reported. If withdrawal symptoms do occur they may resemble those associated with

withdrawal of barbiturates and should be treated in the same fashion. Use caution in administering to individuals known to be addiction-prone or those whose history suggests they may increase the dosage on their own initiative. Repeat prescriptions should be under adequate medical supervision.

**Usage in Pregnancy:** Weigh potential benefits in pregnancy, during lactation, or in women of childbearing age against possible hazards to mother and child.

**PRECAUTIONS:** If sleeplessness is pain-related, an analgesic should also be prescribed. Perform periodic blood counts if used repeatedly or over prolonged periods. Total daily intake should not exceed 400 mg, as greater amounts do not significantly in-

crease hypnotic benefits.

**ADVERSE REACTIONS:** At recommended dosages, there have been rare occurrences of morning drowsiness, dizziness, mild to moderate gastric upset (including diarrhea, esophagitis, nausea and vomiting), headache, paradoxical excitation and skin rash. There have been a very few isolated reports of neutropenia and thrombocytopenia; however, the evidence does not establish that these reactions are related to the drug.

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and other allied health professions and occupations.

- Further development of graduate programs in the basic medical sciences to provide more teachers and scientists.
- Assistance to physicians and hospitals in the establishment and coordination of medical specialty residency programs.
- Organization and expansion of continuing education courses for physicians and other health personnel.
- Establishment of new and improvement of existing teaching resources, including medical television and other systems of medical communications.
- Building up of the medical library as a scientific resource for the university and a major biomedical reference institution for the state.
- Organization in the area of student affairs, with increased attention to recruitment, the admissions process, counseling, student health, financial assistance, and the process for transfer of two-year graduates to other medical schools for completion of their education.
- Coordination and promotion of the research effort, with the development of

mechanisms for obtaining greater public recognition and support of this fundamental medical school activity.

- Expansion of the role of the medical school in participation in programs of service to the community and the state, including cooperation with such government programs as Comprehensive Health Planning and the Regional Medical Programs.

If we are able to accomplish our objectives in these and other important areas, we will be closer to the time when it will be feasible to consider implementing a so-called four-year program. Unfortunately, the term "four-year medical school" sometimes contributes to stereotyped thinking with respect to what a future medical school should be like. There is now a trend in medical education toward providing considerable variability in the length of the medical curriculum, with some schools, for example, planning to offer the medical degree in three years. For the present, we will probably need to continue using the term "four-year school," for convenience and general understanding. What many likely have in mind, however, when considering this subject is a complete course of education leading to a medical degree granted within the South Dakota system

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of higher education.

Many different approaches to the development of a four-year or complete medical school have been proposed and advocated. None of these proposals, by itself, appears to offer a single best approach. However, certain of them do contain concepts and recommendations worth considering in any planning for the future. In incorporating into the present school the elements of a complete course in medicine, there are certain steps which will need to be taken.

- Fundamental to the development of the clinical curriculum will be further organization and strengthening of the Department of Clinical Instruction. This would entail the employment of full-time clinical faculty.
- Expansion of the clinical curriculum will also require that we make greater use of our excellent affiliated teaching hospitals and their staffs. As their teaching programs grow, these hospitals also can work with the medical school to assist other community hospitals in the state and region to develop their capacities to participate in the educational effort. One could foresee a growing network of hospitals participating in, and with their patients and physicians benefiting from involvement in, the teaching of medical students and others in the health field. An efficient system for medical communication between hospitals would greatly facilitate these efforts.
- Attempts should be made to identify and utilize, where appropriate, other potential clinical teaching resources, such as doctors' offices and clinics. An objective here would be to acquaint the student with the health problems of people in the community so that he would develop interest and ability in solving them.
- Various health care agencies and providers in the state should be invited to participate more fully in the medical educational effort. Our beginning efforts to relate the medical school to the Indian hospitals should be expanded through cooperation with the U.S. Public Health Service. Similarly, arrangements with the Veterans Administration's institutions in South Dakota could work to mutual benefit. Assistance in planning should be available from the State Comprehensive Health Planning Agency; and it is possible that the Regional Medical Programs could provide similar as-

sistance as well as help in some aspects of medical school operations. The State Health Department could also be involved where appropriate.

- With the current interest in interstate cooperation in higher education, there is no reason why we should not look to the medical schools and medical centers of neighboring states for assistance, particularly in the area of clinical instruction. It should be possible, for example, to establish cooperative arrangements whereby South Dakota students receive part of their medical training in these institutions, or faculty from other medical schools visit South Dakota to provide certain aspects of the instruction. As previously noted, a medical communications network between medical institutions would facilitate such cooperative efforts. As our School of Medicine's staff and facilities expand, the clinical teaching provided by other medical schools could eventually be offered by South Dakota faculty.

As the job of strengthening South Dakota's two-year medical school nears completion, it will become possible to accelerate our program of "orderly evolution" toward a four-year, degree-granting, or complete medical program. As noted, this can be accomplished by progressively building into the medical curriculum the necessary elements of clinical, as well as additional basic science, instruction. Organization and expansion of the Department of Clinical Instruction, with acquisition of certain full-time faculty and staff, would be essential. Increased attention would also need to be given to expanding the teaching capabilities of our affiliated hospitals as well as to extending medical school and teaching hospital educational expertise to community hospitals in the state and region. The establishment of cooperative arrangements with medical schools and hospitals in adjacent states would increase the potential for growth of the program.

The planning for the development of a complete medical school for South Dakota should be carried out by the University and the School of Medicine in cooperation with appropriate state government educational and health agencies and with the help of knowledgeable health professionals and other citizens. To effectively mount and carry on such a project would undoubtedly require that there be established at the University a special planning office for this

(Continued on Page 21)



purpose with sufficient staff and capability to provide the assistance needed.

The University of South Dakota still maintains a traditional two-year basic science medical school, and current efforts have been directed toward preserving and strengthening this program. However, it should also be evident from the progress made and from plans for the immediate future that the school is already embarked upon a course which can provide for the orderly evolution of the present two-year program into a four-year or "complete" medical program. In considering the future development of the School of Medicine there are certain things that need to be kept in mind. One is that the cost of the program must be feasible. In the past, the prospect of a relatively sudden expansion of the two-year to a four-year program has raised objections by legislators because of the high cost and the uncertainty regarding the state's ability to maintain such a program. In view of this, it seems more reasonable to plan for the development of a complete medical school by adding the third and fourth years in a gradual manner. It would be more realistic to build the program as the financing permits and the progress warrants. Moreover, it would be important to assess the developing program each year so that modifications and improvements could be made, including appropriate adaptations to changing trends in medical education.

Insofar as regional cooperation is concerned, it is to be hoped that in any program which utilizes resources beyond the state's boundaries there is control and direction retained by South Dakota. It is important that the interests of our citizens are adequately represented and manifested in all of the various educational, training and service activities of a medical school's program.

The basic purpose of the School of Medicine is to contribute to the improvement of the health of the people of South Dakota — through the education and training of doctors, other health professionals, biomedical scientists, and medical educators; through medical research, to advance knowledge of disease and to provide quality to the educational programs; and through participation in programs of health service to the community. With support and encouragement from the State, the medical school is yearly increasing its ability to fulfill this purpose. It appears now that the School of Medicine is in an early phase of transition from a

traditional two-year medical school to a complete medical education program. If it can continue to merit support from the citizens of South Dakota and if it can successfully draw upon the many potential medical educational resources in the area for expansion of its program, there is no reason why it cannot become a "complete" medical school in the future.

---

### The Plea of the County Patient

Doc, you've got to help me,  
My end is drawing near;  
I get this weird sensation  
That goes from here to here.

There's poison in my system  
That's cutting off my breath;  
I get this gagging feeling  
That's choking me to death.

My feet are always tingling,  
My hands are getting numb,  
I'm almost always dizzy;  
I fear my end has come.

They've cut me off the welfare,  
My wife has turned me out,  
The nights are getting colder;  
I'm sick without a doubt.

So doc, you've got to save me  
Before I bite the grass,  
But first, one little favor:  
Can I have a weekend pass?

Howard Hyde, M.D.

---

### TOTAL HEALTH CARE BILL \$60 BILLION

Health care costs, both public and private, totaled \$60 billion during 1969, the Social Security Administration reported. Public spending increased sharply since the Medicare and Medicaid programs went into effect — from \$9 billion in fiscal 1965 to \$22 billion in fiscal 1969. SSA figures include all costs, including drugs but not medical education or paramedical personnel training costs.

---

### NATIONAL HEALTH COUNCIL APPROVES FLUORIDATION

A resolution endorsing fluoridation of public water supplies as an effective preventive measure against dental disease has been approved by the National Health Council. NHC's board adopted a resolution which also urges the application of fluoridation to all sources of public water supplies where the natural content of the water is not sufficient to assure proper protection against dental disease.



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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



SHANNON TURNEY, M.D., FACS\*  
*Discussor*

JOHN F. BARLOW, M.D.\*\*  
*Pathologist - Editor*

## FIFTY-NINE YEAR OLD CARPENTER WITH PAIN IN THE RIGHT FOOT AND CALF OF FOUR WEEKS DURATION

### Case 481641

This 59-year old Caucasian male painter and carpenter entered Sioux Valley Hospital for pain in the right foot and calf of four weeks duration.

The patient was perfectly well until four weeks prior to admission when he noted his right foot and leg "going numb" especially in the squatting position. There was discomfort associated with this but he continued to work. That evening the toes of his right foot were blue and he could not sleep because of the pain. He was able to work the next day but noted unusual coldness as well as numbness in the right foot. The pain at rest subsided but he noted that he could only walk about one-half block before pain developed. This pain was relieved by rest. At rest he had a dull sensation and cold feeling in the right leg and foot. He had noted decreasing sexual potency for a period of perhaps one to two years. His father died at age 60 of a heart attack but his brother and sister were in good health. He had no chest pain, dyspnea or neurologic symptoms and admitted no previous hospitalizations or previous illness.

**Physical examination** — Well-developed, well nourished, height 5'6", weight 179 lbs., blood pressure 120 systolic 86 diastolic, pulse 84 per minute and regular, temperature 98.2° F., respirations 20 per minute. The examination of the head and neck revealed only mild arteriosclerotic changes in the fundi. The heart was not enlarged. There was a normal sinus rhythm. Heart

tones were of good quality and no significant murmurs were noted. There were no palpable organs or masses in the abdomen. The prostate was 1+ enlarged with symmetrical and firm consistency. Neurologic examination was negative.

The upper extremities were unremarkable. The temporal, carotid, axillary, brachial and radial arteries were all present and showed good amplitude of pulsation bilaterally.

There was a definite temperature difference in the two lower extremities. The lower half of the right side was cool but not icy cold. The patient did have hair well down onto the ankle especially on the medial side. The decrease in hair on the lateral side was felt to be due to erosion from clothing. An occasional hair was seen on both sides on the dorsum of the feet. The hair distribution was believed to be equal bilaterally. The femoral pulses were of good quality and equal bilaterally. There were bruits over both femoral regions but these were not impressive. There were good popliteal and posterior tibial pulses on the left. A dorsalis pedis pulse was not felt. There were no palpable popliteal or foot pulses on the right. The venous pattern revealed definite decreased filling of the veins on the right as compared to the left. On elevation of the feet there was definite blanching on the right side. No marked color change was noted on returning the legs to the horizontal position. The venous filling was considerably delayed on the right side in the horizontal position. Those on the left filled promptly within 10 or 15 seconds while those on the right side remained collapsed for 60 seconds. On placing the legs in a dependent position there was mild rubor on the right but definite delay in venous filling on the right—up to 45 seconds. The size of the two extremities was equal. The calf

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\*\*Professor of Clinical Pathology, School of Medicine, University of South Dakota, Pathologist, Sioux Valley Hospital.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institutes of Health, U. S. Public Health Service.



muscles were soft and nontender with no atrophy bilaterally.

**Clinical pathology data** — urinalysis - yellow, clear, specific gravity 1.024; pH 5.0, negative for glucose, protein, ketone bodies, hemoglobin; microscopic examination of urinary sediment - negative. Hemoglobin 16.3 gms/100 ml., red count 4.91 million/mm<sup>3</sup>, hematocrit 47 Vol. %, mean corpuscular hemoglobin 33 micromicrograms, mean corpuscular volume 95 cubic micra, mean corpuscular hemoglobin concentration 35%; total leukocyte count 7,100 per mm<sup>3</sup> with 67% segmented neutrophils, 1% neutrophilic bands, 3% eosinophils, 29% lymphocytes. The red cells were normochromic normocytic and the platelets adequate on smear. Erythrocyte sedimentation rate was 10 mm. per hour. Uric acid was 5.1 mgs/100 ml., total cholesterol 245 mgs/100 ml., total lipids 416 mgs/100 ml. (Triglycerides and lipoprotein electrophoresis were not available at this time). Two-hour postprandial blood glucose was 106 mgs/100 ml., blood urea nitrogen 16 mgs/100 ml., prothrombin time 11.0 seconds with an 11.5 second control. Partial thromboplastin time 33.0 seconds with a 29.0 second control. A serology was nonreactive. X-ray films of the chest were normal. An x-ray film of the pelvis showed mild pagetoid changes in the left hemipelvis. There was mild calcification of the major iliac vessels and of the femoral arteries bilaterally. Views of the right lower extremity showed no bony abnormality and no vascular calcification. A femoral arteriogram showed good visualization of the arterial tree from the aortic bifurcation to the area below both knees. There was moderate plaque formation of the proximal iliac arteries which slightly diminished the lumen. This was a little more apparent on the right. There was extensive plaque formation along the iliac and femoral arteries. There was one large plaque in the left common femoral artery but no block. On the right there was a complete block of the superficial femoral artery 16.0 cm. in length at the level of the middle and distal third of the femur. There was extensive collateralization so that the popliteal artery was visualized. The trifurcation was slightly visualized bilaterally. An electrocardiogram was normal.

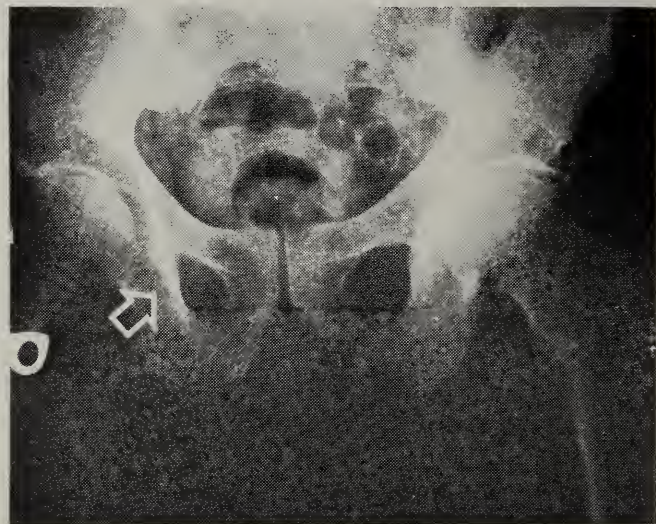
DR. TURNEY: I would like to clarify a few points in this case. First, I do not care to evaluate the mild arteriosclerotic changes in the fundi as they are not well described. The absence of hair on the lower extremities is difficult to evaluate as many people do not have hair in this region.

\*DR. LOURENS WILLIKES: Doesn't hair on the great toes mean something and the fact that there is absence of hair on one extremity as compared to the other?

DR. TURNEY: Yes, lack of hair on one extremity as compared to the other may make a difference but there is no mention of hair on the toes. Hair on the toes is occasionally of significance. I might also add that calcification of the vessels on the plain films does not necessarily mean occlusive disease as there is sometimes a disease of the media with calcification called Monckeberg's sclerosis, which causes calcification of the media but no occlusion. May we see these X-rays please?

\*\*DR. FRANK PETEREIT: These are the plain films and show the calcification in the arteries which does not necessarily imply occlusive disease as has been mentioned. There is also the thickening of the cortex in the pelvis which suggests early Paget's disease. (Fig. 1) In performing arteriograms of this type there are several approaches. One is the translumbar approach. Another is running a catheter down through the axillary artery to the distal aorta

Figure 1.



Arrow points to thickened rim of pelvis, suggesting early Paget's disease.

and then injecting contrast media. A third is direct puncture of the femoral artery with hand injection. Since the "run-in" is as important as the "run-off" you would like to see the distal aorta as well as the femoral arteries. In this particular case, since the right side is mainly severely affected I might puncture the opposite artery. With the Amplatz injector or something that can give you a little faster or harder injection.

\* Intern, Sioux Valley Hospital.

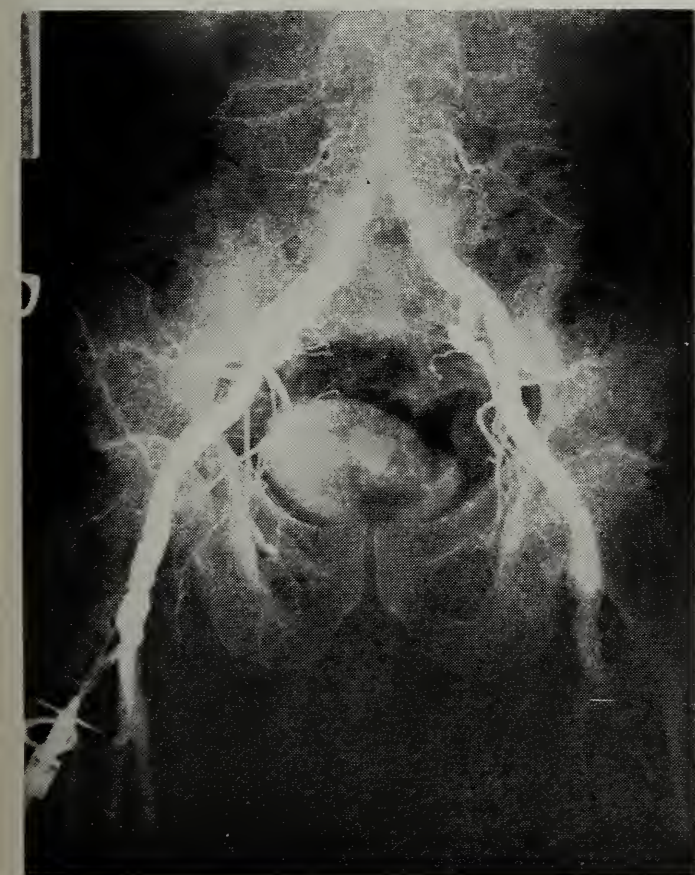
\*\*Radiologist, Sioux Valley Hospital, Assistant Professor of Radiology, School of Medicine, University of South Dakota.



tion than the hand, I would try to run the dye up the common iliac artery into the aorta and down the other side. The problem is that several times, in my experience, this has not worked out too well. The dye does not always go up aorta and down the other side as you would like. For this reason, I decided to puncture on the side of involvement in this case. Unfortunately we have not yet purchased the proper rapid changing technique and we have to time the injection to make sure we get the dye at the right place at the right time. Often a second injection is necessary. On these films, you can see the irregularity of the aorta and common iliac artery. (Fig. II) Here the superficial femoral artery does not fill. Reinjection demonstrates definite block in the superficial femoral artery. (Fig. III) The area of the trifurcation is seen. In this arteriogram in addition to the block every vessel that you see is irregular with various sized plaques. A film of the left leg demonstrates an open superficial artery.

\*DR. WILLIAM O. ROSSING: What do you mean by early Paget's change? Does this mean that we can expect the patient to develop a lot more Paget's later?

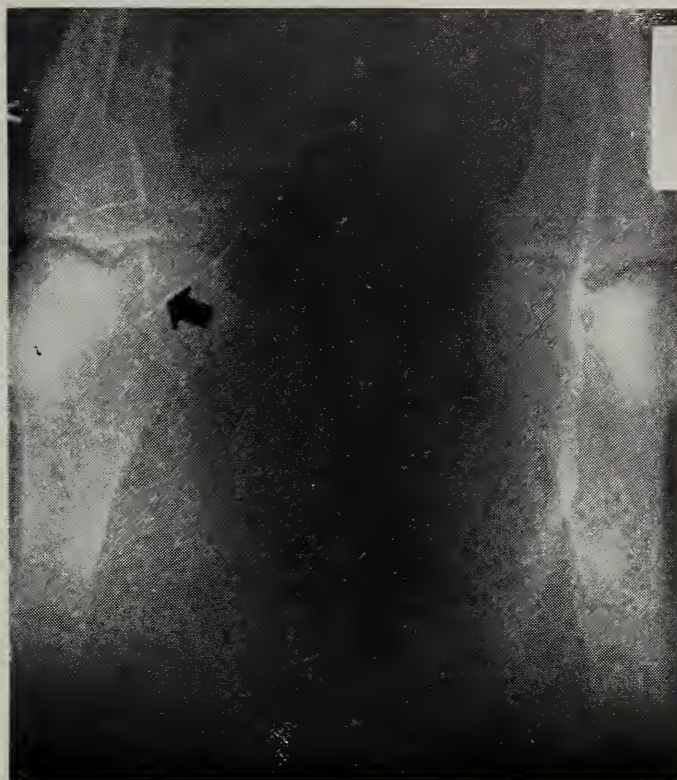
Figure 2.



Irregularity of artery outlines suggests atherosclerosis.

\* Internist, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.

Figure 3.



Abrupt block in femoral artery indicating obstruction to passage of contrast material (see arrow).

DR. PETEREIT: Yes. What we have here is what we call the brim sign. (See Fig. I) There are three major changes in Paget's disease of bones. One is thickening of the whole bone. One is thickening of the cortex and the third is coarse trabeculation. The brim sign is the early cortical thickening that you see on this x-ray with some coarsening of the trabecula beneath.

†DR. MARTIN CHIPMAN: Do you see the same changes in other bones in other cases?

DR. PETEREIT: Yes, except for the skull, where you get large osteolytic areas called osteoporosis circumscripta. In the long bones, the thickening of the cortex and coarse trabeculation is typical as well as in the vertebrae and pelvis.

DR. TURNEY: I want to show some other cases to show the three levels of obstruction in the femoral artery, lower aorta and common iliac artery. The first case was a 31-year old female who developed a peculiar rash between the toes which went on to develop gangrene. The important thing in this case is no one thought to feel the patient's pulses because of her age. The patient had no pulses. Here on the arteriogram you can see the marked constriction of the lower aorta. You will note that this is a very localized process and the rest of the vessels show no

† Neurologist, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.



thickening or plaques. I simply did a local resection and put in a patch. These post operative films show good patency. The patient has pulses bilaterally. The defect was due to a localized hyperplasia of the vessel rather than to arteriosclerosis.

\*\*DR. FELKER: Do you suppose her pregnancy had something to do with this?

DR. TURNEY: I don't know. Symptoms started during her third pregnancy but she had not had trouble before.

DR. CHIPMAN: What is the etiology of this process?

DR. TURNEY: I suspect that it is a localized intimal or medial hyperplasia.

DR. BARLOW: It should be noted that these changes of intimal or medial hyperplasia that were originally described in the renal arteries have been described in arteries elsewhere in the body and are not specific for the renal artery.

DR. TURNEY: This next case is a 60 year old man who had pain in the hip on walking. The arteriogram shows a block of both common iliac arteries more on one side. In this case a saphenous vein graft relieved the symptoms. The next case is a 59 year old diabetic. This patient had an ulcer on her left toe which would not heal. She had 1+ femoral pulses. This is very weak, but her popliteal on the right was much stronger than on the left. The arteriogram again shows a block in the common iliac arteries on the left. Excision and graft in this area gave a good result. You can see on the arteriograms previous to operation that she did have good run-off in these vessels so that it appears that this plaque protected the vessels lower down from severe atherosclerotic changes. In diabetics you always have the fear that it is the small vessel disease which is causing the problem but in this case we had a very good result. This lady had all of her pulses return. I have presented a case with disease in the aorta and both common iliacs and one case with disease in one common iliac. The case of this CPC has a block in the femoral artery. These are the common areas that are involved in occlusive vascular disease.

What I want to talk a little more about today is the adequate taking of a history and physical from patients with peripheral vascular disease. One of the first things that I think about is pain and the nature of the pain. The first type of pain is persistent pain. You see this secondary to ulceration or gangrene as in thromboangiitis obliterans (Buerger's disease) and in atherosclerosis.

Sudden arterial occlusion from embolism will give persistent pain. A patient with ischemic neuropathy has persistent pain and often the patient holds the leg in a dependent position. You cannot get him to raise it because this increases the pain markedly. The pain of arteritis, phlebitis and lymphangitis is a persistent pain. The pain in these conditions may wax and wane but the patient has it all the time.

The next type of pain is intermittent type of pain and this can be divided into intermittent pain dependent on temperature, exercise and posture. The most important type of pain in the extremities dependent on temperature is secondary to Raynaud's disease. This is quite dependent on exposure to cold. It is common in the upper extremities. There is a rare disorder called erythromalgia. In this condition there is a red painful and hot extremity which may be either idiopathic or secondary to increased blood pressure or may be seen in polycythemia vera. It is quite rare. The most common temperature dependent pain is seen secondary to Raynaud's disease.

The second type of intermittent pain is dependent on exercise. By far the most common cause of this is chronic occlusive arterial disease due to atherosclerosis. Rarely, you can get arterial spasm secondary to ergotism. The onset of pain with effort and cessation with rest is called intermittent claudication and is very characteristic of chronic occlusive arterial disease. This is what this patient in the protocol has.

The third type of intermittent pain is dependent on posture. Lymphedema, lipedema and chronic venous insufficiency will be dependent on posture. The pain occurs when the patient stands.

A very important thing on the physical examination is to note the color of the skin. With acute arterial insufficiency, pallor is very common. The sequence of changes is pallor, cyanosis and rubor with the progression of arterial disease and this color change ought to be described very clearly when you are examining a patient with a problem with a leg. Ulcerations or gangrene must be carefully described as to extent and duration.

A final important thing, of course, is the examination and recording of the pulses in the extremities. You ought to have a uniform system of grading. My own is to use a classification of 0-4+ with 1+ being poor pulsation and 4+ being good pulsation. You must be very careful about evaluating the symmetry of the pulses in

\*\*Internist, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.



the extremities. The popliteal pulse is the most difficult to feel. Some lay the patient down and flex the leg, others let the knee bend and relax and put their thumbs anteriorly below the patella and feel the pulse with their fingers behind. This is the way that I usually do it. If I can feel pedal pulses I don't pay much attention to the popliteal pulses.

\*DR. SHREVES: When do you get cyanosis with arterial occlusion?

DR. TURNEY: Patients will go through a cyanotic phase especially as they develop collateral circulation in occlusive disease. Of course, ilio-femoral thrombosis of veins can also give cyanosis to the extremities.

The patient in the protocol I am sure has a thrombosis due to atherosclerosis of the femoral artery and what should have been done is a femoral popliteal vein by-pass.

### DR. TURNEY'S DIAGNOSIS

#### THROMBOSIS OF FEMORAL ARTERY DUE TO ATHEROSCLEROSIS

DR. SHREVES: What do you feel about patients who do not get their pulses back immediately after surgery?

DR. TURNEY: If I have a patient who has had adequate arteriograms prior to surgery and I know I have good "run-off", then I expect to get good pulses postoperatively. If I do not, I do an arteriogram right there and may reoperate. I know something has gone wrong technically. There is one exception and this is that spasm often occurs. This was particularly true of young people in Viet Nam. After you had operated and knew you should have had a good result technically, they would have no pulses but the following morning they would have good bounding pulses. I am sure the whole process is due to spasm. I think before we had good arteriographic media and good x-rays, we might have been worried. But when we know we have good x-rays, we should expect a good result from our surgery including the return of pulses.

DR. SHREVES: Sometimes you can have a patient who does not get pulses after surgery and has a good result as far as relief of claudication goes. It had always been my previous teaching that when you do not get pulses back after surgery you have not accomplished much. However, this is not always the case.

\*\*DR. ROBERT NELSON: I want to reempha-

size this problem of spasm which may occur right after surgery. I have had this problem myself in which I was sure that I should have had a good result and yet got no pulses after surgery. However, 24-hours later, there were bounding pulses and the lack of pulses had to be due to spasm. Sometimes I have tried papaverine in these cases but I am not sure that it is even necessary.

DR. TURNEY: We were using low molecular weight dextran in Viet Nam but I do not think that this gave us much success. However, I now occasionally use clinical dextran because it gives you more hemodilution and better anticoagulation.

DR. NELSON: I think that the post operative spasm that you run into is particularly characteristic of young people. When the pulses come back, they are extremely good.

DR. PETEREIT: Do you do many endarterectomies?

DR. TURNEY: No, I usually use venous by-pass autografts. I have not done an endarterectomy for some time.

DR. PETEREIT: I have recently heard Dr. Sako, a vascular surgeon, speak at our Veterans Administration Hospital. He said that endarterectomy was sometimes very efficacious for the common iliac and lower aorta but that below the inguinal ligaments endarterectomy was rather unsuccessful and venous by-pass is what was used if any success were to be encountered. Sympathectomy was of little use in arterial disease above the inguinal ligaments and of some use with arterial disease in the lower extremity.

\*DR. DELWIN K. OHRT: Is the loss of pulses after operation due to emboli which dissolve or is it actually due to spasm?

DR. TURNEY: I believe that it is really due to spasm.

DR. PETEREIT: I certainly think that we see this sort of thing during arteriograms. The pulse will disappear. If it does, I try to terminate the procedure immediately. Some people inject intra-arterial procaine or lidocaine to release the spasm. I am sure that instrumentation of the artery will throw it into spasm.

DR. SHREVES: What is the feeling about sympathectomy in the vascular centers now? I have done sympathectomies in the past on elderly people without much success. I am particularly interested in those people who do not have patent enough arteries distally which are good

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\*\*Surgeon and Director of Medical Education, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.

\* Resident in Pathology, Sioux Valley Hospital. Instructor in Pathology, School of Medicine, University of South Dakota.



enough to make them candidates for surgery.

DR. TURNEY: I think that the only use of sympathectomy is that it does increase the blood supply to the skin and can heal ulcerations. If they don't have the local skin problem, it isn't of much use.

DR. SHREVES: At the recent American Medical Association Convention they showed that sympathectomy sometimes brought about a state in which papaverine was effective after sympathectomy but not before. They proved this by measuring blood flow.

DR. TURNEY: I might mention that Shumway and his group in California are doing amazing things with electronic measurements of blood flow. I am sure that we will be able to put a little instrument over an artery in the not too distant future and get the amount of blood flow and the diameter of the vessel in a very short time.

\*DR. CURTIS FREDERICKSON: What about radioisotopic measurement of blood flow?

DR. TURNEY: This has been available but not very useful in my experience.

DR. SHREVES: I would like to note that at the American Medical Association Convention about  $\frac{3}{4}$  of all the surgical exhibits were on vascular surgery. The major point that I got from these exhibits was that they are staying away from artificial grafts because they tend to fail mainly in the third year. They were stressing mainly autogenous venous grafts.

DR. PETEREIT: If you put your graft across the popliteal area at the knee joint, do you believe in fusing the knee?

DR. TURNEY: No, I have never done this. I think we know a lot more about vascular surgery in the popliteal area now. I also put my graft right down to the trifurcation of the artery.

DR. PETEREIT: Again I am sure that there is some controversy on this point. Dr. Sako, the vascular surgeon who spoke at the V.A. Hospital had had some ruptures of popliteal venous grafts after a few years when the knee was not fused routinely.

DR. TURNEY: I have not had this complication. Most venous grafts are end to end. I have not done too many cross over venous grafts but I had to do one in the Army when I did an end-to-end anastomosis and got a problem when the thing started to distend. This patient did very well. On older patients who are bedridden, I often do end to side venous anastomosis and this

is a relatively minor surgical technique and keeps the patient from being bedridden.

DR. ROSSING: I wonder if one of the interns knows why some vascular surgeons feed their patients onions after surgery?

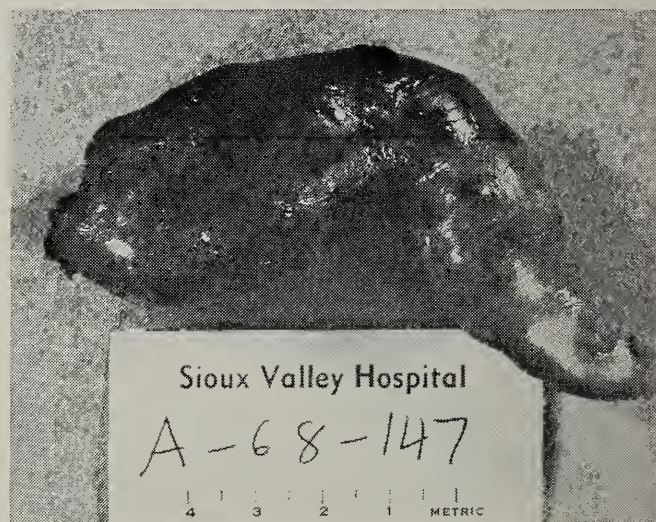
Well, the English feel that there is an anti-coagulant factor in onions and this is being investigated at the present time.

DR. BARLOW: Perhaps we should now find out what happened to this patient.

DR. NELSON: Dr. Ensberg was the surgeon on this case and I assisted him. At surgery, on exploring the popliteal space, a large aneurysm was found. This was resected and a saphenous and superficial femoral popliteal vein by-pass graft was inserted. Subsequently the patient has done very well. The patient's post operative course was uncomplicated and the patient's pulses have remained good. The operation was approximately six months ago.

DR. BARLOW: Here is a picture of the popliteal aneurysm. Note that it is filled with blood clot. The aneurysm was of the atherosclerotic type with thin media and thickened fibrotic intima with plaques. Aneurysms form because of marked weakening of the media by the atherosclerotic process. (Fig. IV)

Figure 4.



Resected specimen of popliteal artery aneurysm. The segment was replaced by a venous graft.

#### FINAL ANATOMIC DIAGNOSIS

##### 1. POPLITEAL ARTERY ANEURYSM DUE TO ATHEROSCLEROSIS

There have been a number of interesting studies in the past several years on the pathogenesis of atherosclerosis. This disease which attacks mainly the coronary, cerebral, and peripheral arteries of the lower extremities as well as the aorta is the leading cause of death in this country. You have heard frequently in lectures about the new methods of classification and treatment of

\* Intern, Sioux Valley Hospital.



the hyperlipoproteinemias and their relevance to the problem of atherosclerosis. I will not review that at this time. However, I will make comment about some new concepts. One is that it used to be felt that atherosclerosis was primarily an intimal disease. It is now felt that the initial cell to be injured is the smooth muscle cell of the media. Perhaps this is due to the uptake of lipoproteins by the smooth muscle cells which then undergo proliferation or reaction resulting in plaque formation. I should also mention the point that many times the diagnosis of generalized atherosclerosis is made on many individuals who are above the age of 50. Often we see severe atherosclerosis of the aorta but little atherosclerosis elsewhere. Also a patient may have severe coronary atherosclerosis with no cerebral atherosclerosis or vice versa. In other words, the distribution of atherosclerosis may be concentrated in one area and not widespread.

DR. TURNEY: I would like to ask one of the interns if they realize where the major common sites of occlusion in the peripheral arterial tree are. The first most common is at the bifurcation of the common iliac artery bifurcation into the common femoral and hypogastric. The second is in the common iliac and the third is the superficial femoral artery. You should always look for these three specific sites of occlusion on your arteriograms and during physical examination.

#### BIBLIOGRAPHY

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#### RESERVE FORCES MEDICAL SYMPOSIUM

Medical Air National Guardsmen and Air Force Reservists are invited to attend the Eighth Annual Reserve Forces Medical Symposium in Houston, Texas, from April 26 to 29, 1971.

The Symposium, jointly sponsored by the Air National Guard and Air Force Reserve, will be held at the Shamrock Hilton Hotel in conjunction with the 42nd Annual Scientific Meeting of the Aerospace Medical Association.

A general session will be held on Tuesday, April 27.

Reservists and Guardsmen in units can get more detailed information from their unit commanders. Mobilization Augmentees should address inquiries to the major air command to which they're assigned.

#### The American College of Obstetricians and Gynecologists

The Nineteenth Annual Clinical Meeting of The American College of Obstetricians and Gynecologists will be held in San Francisco, May 3-6, 1971.

The program will develop three themes, Perinatology, Pelvic Infections, and Diseases of the Vulva, one each day. The general sessions, seminars, correlated seminars, round tables and reports on clinical investigations will each relate to the day's theme.

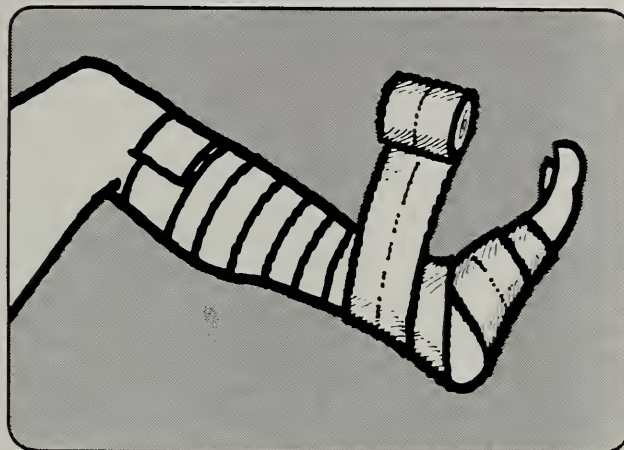
Non-Fellows may register to attend both the meeting and the Postgraduate Courses which precede the meeting on May 1 and 2.

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# MEDICAL ASSOCIATION

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Reports for your patients who have filed claims for disability benefits under Social Security are reviewed by the Disability Determination Unit, P.O. Box 912, in Sioux Falls 57101. This Unit is continually exploring techniques to simplify the medical reporting procedure and would welcome your suggestions. The telephone call is one technique that facilitates decision making. Replies to any request for evidence from the DDU on behalf of your patients should include **evidence of record** that is responsive to the request.

\* \* \*

New officers for the Seventh District Medical Society include **R. B. Leander, M.D.**, President; **Edward Daw, M.D.**, Vice President; **R. R. Giebink, M.D.**, Treasurer; and **James Shaeffer, M.D.**, Secretary.

\* \* \*

Doctors **C. L. Voge** and **A. C. Voge** announce the association of **E. J. Perry, M.D.**, and **M. E. Sanders, M.D.** with them in the practice of medicine in Aberdeen. Dr. Perry and Dr. Sanders were formerly from Redfield.

**B. O. Lindbloom, M.D.**, Pierre, attended a five-day Conference on Family Practice at the University of California.

\* \* \*

**B. C. Lushbough, M.D.**, Brookings, spoke at the Kappa Psi Pharmaceutical Fraternity meeting on factors leading to the increasing incidence of heart disease in people and on doctor pharmacist relationships.

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The Seventh District Medical Society met in Sioux Falls on January 5 at which time **Dr. J. A. Muggly**, President of the South Dakota State Medical Association, made his official visitation to the district. Seventy-five members attended the meeting.

\* \* \*

Members of the Black Hills Association of Life Underwriters heard **Charles B. Gwinn, M.D.**, Rapid City, speak on the importance of the Medic Alert Foundation International.

\* \* \*

Officers for the coming year for the Aberdeen District Medical Society include **M. E. Sanders, M.D.**, President; **Karl Kosse, M.D.**, Vice President; and **Juan Chavier, M.D.**, Secretary.

\* \* \*

**G. Robert Bartron, M.D.**, Watertown, was appointed to the Advisory Council of the Commission on Mental Health and Mental Retardation by former Governor Frank Farrah. He will serve as a representative of the South Dakota State Medical Association for a three year term.



The Huron College Board has elected **W. H. Saxton, M.D.** to the status of trustee emeritus. Dr. Saxton first became a member of the Board in 1948 and has served continuously since that date.

\* \* \*

**Dr. Finley D. Marshall** of the Biochemistry Department at the University of South Dakota Medical School recently

left on a year-long sabbatical leave. Dr. Marshall will be working under Dr. Eugene Roberts, world famous neurochemist and director of the Neurosciences Division at the City of Hope Medical Center, Duarte, California. Dr. Marshall received a special fellowship from the National Institutes of Health. The grant enables him to spend a year

studying the metabolism of the Histidine compounds in the central nervous system.

\* \* \*

The Watertown District Medical Society has elected **Alden Heupel, M.D.** president for the coming year. Other officers are **A. K. Brevik, M.D.**, vice president, and **T. J. Wrage, Jr., M.D.**, secretary.

## PROFESSIONAL IDEALS

### A Report of the Judicial Council

Adopted by the House of Delegates, December 1, 1970

Recently many letters have been received by the Judicial Council complaining of an apparent preoccupation by an increasing number of physicians with the financial aspects of their medical practice.

The Judicial Council reaffirms that the laborer is worthy of his hire and the physician is entitled to reasonable compensation for the service he performs. At the same time, the Council must point out that the "prime object of the medical profession is to serve humanity; reward or financial gain is a subordinate consideration."

In 1934 the House of Delegates said "one of the strongest holds of the profession on public approbation and support has been the age old professional ideal of medical service to all, whether able to pay or not." The Council believes it would be helpful if the House were to reaffirm that policy at this meeting.

Some physicians seem to believe that the practices of business enterprises should be utilized by physicians in order to "encourage prompt attention to medical accounts." They ask, "Why shouldn't we be paid as soon as the dry goods store, the grocer, or the TV service man?"

Ideally, the physician should be paid promptly. If the physician is not paid as promptly as other creditors he should recall that he is a professional man with all the perquisites that that term implies. Our patients in large number carry insurance to cover the cost of medical services. (They do not insure payment of the cost of other professional or business services to any notable extent.) Governmental programs have been instituted and are being developed continually to provide payment for medical care to those who are unable to provide this payment.

If the profession were to cast aside its ideals and traditions and adopt the practices of business, trade or industry in dealing with patients, then the profession would be casting aside also the perquisites that have been accorded it. The increase of collections by adding 1½% interest per month to a bill of an honest patient embarrassed because of inflationary trends, or the bill of some retired person living on a small pension is, in the opinion of the Judicial Council, not justifiable. It simply is not worth it from any point of view. The imposition of a penalty on the bill of a "deadbeat" is not likely to cause him suddenly to change; the chances are he will become even less likely to pay.

A physician who demands a satisfactory credit report on an individual before accepting that individual as a patient is demonstrating that to him financial compensation is the prime object and reward of his profession.

A physician who publicly refuses to see a patient, who had an appointment, because patient's balance on account was "too high" is demonstrating that he respects neither himself nor his profession.

These examples are real. The Council believes they are the exception and they seem more conspic-

uous because of that fact. Nonetheless, these practices reflect adversely on the whole profession and especially on the countless physicians who extend credit willingly or write off old accounts because they are dedicated to serving mankind.

The Judicial Council therefore recommends that the House of Delegates reaffirm that the prime object of the medical profession is to render service to humanity; financial gain is a subordinate consideration.

The Council recommends that the House call this reaffirmation of policy to the attention of constituent and component medical societies, asking them to urge all physicians to adhere faithfully to the professional ideals, traditions and goals of American medicine.

### Educational Course Announcement

A continuation course on "Clinical Electroencephalography" will be held September 13-15, 1971, in Minneapolis, Minnesota. The course is designed to review the principal applications of the EEG to clinical medical practice, and is sponsored by the American Electroencephalographic Society.

Inquiries about further details of the course or registration procedure should be addressed to Dr. Donald W. Klass, EEG Course Director, Mayo Clinic, Rochester, Minnesota 55901.

Two positions open for M.D.'s under 55 years of age who wish challenging medical practice with regular hours and minimal night work. Paid vacation and medical meeting plus fringes. Compatible medical staff of 8, working in 40 bed, Joint Commission Accredited Hospital. Attractive college town of 35,000. Robert E. Sinclair, M.D., Lafene Center and University Hospital, Kansas State University, Manhattan, Kansas 66502.

**WANTED** — General Practitioners in the "Heart of the Black Hills." Well established community with a population of about 2,500, service area of about 6,500. A modern 16-bed general hospital constructed for easy expansion if necessary. At present we have one General Practitioner in town. Our 78-year-old doctor passed away recently. The staff will cooperate fully as desired. The State Hospital for the Severely Mentally Retarded is located 5 miles south of town. Large medical centers are only 45 minutes away. For more details contact: D. C. Kanwischer, Administrator, Custer Community Hospital, Custer, South Dakota 57730.



# DRUG INFORMATION NETWORK

Paul E. Groth, Director

On August 17, 1970, the Drug Information Network became an operational reality. This program is designed to provide physicians of the Region with comprehensive and authoritative information about pharmacologic products, readily available and requiring a minimal amount of involvement by the requester.

The Drug Information Network's main center is located in Lincoln, Nebraska, and employs a full-time drug information pharmacist. Assisting the center are the services of a clinical pharmacological consultant. There are five subcenters utilized to keep the network in operation **24 hours a day and 7 days a week**. These subcenters are located in the pharmacy departments at St. John's McNamara Hospital, Rapid City, South Dakota; McKennan Hospital, Sioux Falls, South Dakota; Bryan Memorial Hospital, Lincoln, Nebraska; the University of Nebraska College of Medicine, Omaha, Nebraska; and Mary Lanning Memorial Hospital, Hastings, Nebraska.

The subcenters are all very competent institutions and have a registered pharmacist with a

drug information background answering the after-hours calls (4:00 p.m. to 8:00 a.m. and weekends.)


All telephone calls from physicians requesting drug information are toll-free (i.e., free of charge to the requester).

The calls are automatically billed to the Regional Medical Program. For example, a physician calling from Mitchell for drug information merely dials our number. There is no collect calling or any other similar apparatus involved.

A switchboard operator answers all calls. He asks who is calling and whether or not the call pertains to drug information. If it does, the operator asks the requester's address and telephone number, as well as his profession. The call is then transferred to a drug information pharmacist who is answering the calls that particular time of day or night. As previously mentioned, the service is available **24 hours a day, 7 days a week**.

All phone calls are recorded via a tape recorder, and the tapes are transcribed daily for

(Continued on Page 39)



**Noludar® 300**  
(methypylon)  
**one capsule  
for the rest  
of the night**

Before prescribing, please consult complete product information, a summary of which follows.

**INDICATION:** Relief of insomnia of varied etiology.

**CONTRAINDICATIONS:** Patients with known hypersensitivity to the drug.

**WARNINGS:** Caution patients about combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness, such as operating machinery or driving a motor vehicle shortly after ingesting the drug.

**Physical and Psychological Dependence:** Physical and psychological dependence rarely reported. If withdrawal symptoms do occur they may resemble those associated with withdrawal of barbiturates and should be treated in the same fashion. Use caution in administering to individuals known to be addiction-prone or those whose history suggests they may increase the dosage on their own initiative. Repeat prescriptions should be under adequate medical supervision.

**Usage in Pregnancy:** Weigh potential benefits in pregnancy, during lactation, or in women of child-bearing age against possible hazards to mother and child.

**PRECAUTIONS:** If sleeplessness is pain-related, an analgesic should also be prescribed. Perform periodic blood counts if used repeatedly or over prolonged periods. Total daily intake should not exceed 400 mg, as greater amounts do not significantly increase hypnotic benefits.

**ADVERSE REACTIONS:** At recommended dosages, there have been rare occurrences of morning drowsiness, dizziness, mild to moderate gastric upset (including diarrhea, esophagitis, nausea and vomiting), headache, paradoxical excitation and skin rash. There have been a very few isolated reports of neutropenia and thrombocytopenia; however, the evidence does not establish that these reactions are related to the drug.



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(Continued from Page 36)

our records. Within 24 hours after a drug information call is received and answered via the telephone, written documentation of the answer is sent to the requester. An evaluation card is also sent so that the requester can evaluate the information obtained.

Physicians in South Dakota use the following number for contacting the Drug Information Network: 800-228-4011. This number is to be dialed directly, preceded by the local dial access number (i.e., Sioux Falls physicians would dial 1-800-228-4011).

We will be expecting to hear from our readers in the future whenever they need comprehensive and authoritative information about pharmacologic products.

**GENERAL PRACTITIONER WANTED**—to join four General Practitioner Group in young suburban community of 100,000. Tired of long hot summers — cold winters alone on call? Move to San Francisco Bay Area — mild climate. Must have California license and no military obligations. Forty-five minutes from downtown San Francisco. Salary leading to partnership. Contact — Phillip M. Loeb, M.D., Center Medical Group, 2190 Peralta Blvd., Fremont, California 94536. Telephone (415) 793-2645.

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### TO THE PHYSICIANS OF SOUTH DAKOTA

In the past I have advised the Council and other groups of the Medical Association that I would be willing to speak to district societies and would also welcome inquiries from individual physicians about medical school matters. Also, Mr. R. C. Erickson has reiterated this offer.

I have received invitations to speak from only a few societies, however, and have had few direct inquiries from physicians. In view of the increasing interest in health affairs in the state and in the role the medical school is playing in this, I am sure that many are interested in what we are doing and trying to do. So I would again state my offer to speak to groups in the state about our activities, and I would welcome letters and phone calls (677-5621) from interested physicians. This is your state's medical school, so please let us know if there are specific things you would like to know about it.

George W. Knabe, Jr., M.D.  
Dean, School of Medicine





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## THE MONTH IN WASHINGTON

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The federal government now has the authority to expand the U.S. Public Health Service to provide direct medical and other health care services in ghettos and rural areas where there are shortages of physicians and other health personnel.

Before such a program can be started, the state and local medical society must certify that it is needed.

The Senate approved the authorizing legislation, 66-0, and the House by an almost unanimous voice vote. President Nixon signed it into law on Dec. 31 although the secretary of Health, Education and Welfare, and the PHS surgeon general had asked Congress to defer action until the President had presented his overall health program early this year.

The legislation authorized \$10 million for the current fiscal year ending next June 30, \$20 million for fiscal 1972 and \$30 million for fiscal 1973. The money must be appropriated before it is available for the program.

In its report approving the legislation, the House commerce committee expressed a hope that it would help revitalize the PHS which the Nixon Administration reportedly has been planning to further downgrade, or even eliminate, in a reorganization of the health activities of HEW.

"That the Public Health Service has been allowed to languish, and that the great functions it has performed have largely been stripped from it, is the fault of this and previous administrations, and a tragedy from the standpoint of the nation's health needs," the committee report said.

Physicians enlisting in the program will become PHS commissioned officers and, as such, be exempt from the military draft. Fees paid for their services will be set by the HEW secretary and go into the U. S. treasury.

The HEW secretary has the responsibility of determining, after consultation with local officials and health groups, what areas need such a program. He then can assign PHS personnel there after receiving a request from a state or local health agency or other public or nonprofit private health organization and a certification of need from the state and local medical society.

The new law — the "Emergency Health Personnel Act of 1970" — also provides for the establishment of a 15-member National Advisory Council on Health Manpower Shortages. It will include three members from the health professions, three members from state health or health planning agencies and four from the general public representing consumers of health care.

\* \* \*

President Nixon was pronounced in "excellent health" with a "young man's blood pressure" after his annual physical checkup.

Air Force Brig. Gen. Walter Tkach, M.D., the President's physician, said that all the tests given the nation's chief executive at the Bethesda (Md.) Naval Medical Center were within normal limits. The examination team of five physicians including himself, Tkach said, found Nixon's blood pressure to be 118/82 compared to last year's reading of 120/80. He described it as a "young man's blood pressure, ideal" for the president who was only 10 days short of his 58th birthday.

Tkach's only recommendation for Nixon was that he take more time for exercise and recreation, preferably in California or Florida. The President partly heeded the advice, going to California shortly thereafter for a "working vacation."

\* \* \*

Three major reports before the federal gov-



ernment urge extensive programs to combat cancer and heart disease.

A special panel of 26 expert consultants, in a report to the Senate Labor and Welfare Committee, urged a multi-billion dollar crusade against cancer in an effort to erase its "staggering" impact of death and suffering caused by the disease.

The National Advisory Cancer Council urged increased educational efforts by both governmental and private agencies to warn the public against the hazards of smoking.

The Inter-Society Commission for Heart Disease Resources recommended a program that would promote drastic changes in the nation's dietary habits, elimination of cigarette smoking and research into the causes of high blood pressure.

The latter two bodies were set up by the Department of Health, Education and Welfare. The heart disease commission is made up of more than 100 experts in cardiovascular disease, epidemiology, radiology, rehabilitation and surgery from 29 medical organizations, including the American Medical Association, the American Heart Association, the American Nurses Association, the American Hospital Association and the College of Cardiology.

Based on a four-month study, the cancer report to the senate committee included an estimate that 50 million Americans now living will develop the disease and that 34 million of them will die unless immediate steps are taken to curb it.

The consultants recommended a sweeping program keyed to consolidation of all existing cancer research projects into a national cancer authority directly responsible to the president.

"The Committee is unanimously of the view that the conquest of cancer is a realistic goal if an effective national program along the lines in the report is promptly initiated and relentlessly pursued," said Benno C. Schmidt, co-chairman of the group.

The report recommended doubling cancer research spending to \$400 million in the 1972 fiscal year, and increasing it by \$100 million to \$150 million in subsequent years to a \$1 billion level in 1976.

The panel of consultants, which included labor and civic leaders as well as distinguished cancer researchers, said that the program should be devoted primarily to research into the causes and cures of cancer, rather than to patient care.

The National Advisory Cancer Council's

fourth annual report on the state of the art in cancer research cited the more than 60,000 deaths a year in the United States from an "epidemic" of lung cancer attributed mainly to cigarette smoking. The report dealt with the chemical causes of cancer and the effects of many environmental factors, not only the "private pollution" of smoking but also the more public air pollution from industrial and commercial wastes, as causative agents in malignant disease.

As of January 2, a ban on all advertising of cigarettes on television and radio became effective under legislation approved in the Congress, and all packages of cigarettes manufactured and sold in the United States now must carry a new printed warning: "The Surgeon General has determined that cigarette smoking is dangerous to your health." This replaced the milder warning required by a 1965 law that expired in 1969 which said: "Caution: cigarette smoking may be hazardous to your health."

Although a substantial portion of this report of the Council was devoted to the problem of smoking and health, it was stated that the production of cancer by chemicals is part of a larger problem of the hazards facing man in a polluted environment. The report pointed out that the death rate from cancer continues to increase despite steady improvement in the cure rate, and suggested that this may be related largely to increased exposure of the population to cancer-causing agents in the environment.

The heart disease commission's report said the nation's cholesterol-rich diet, cigarette smoking and high blood pressure are the primary reasons for one million heart attack deaths and 600,000 heart disease deaths in the United States annually. The report cited five secondary factors: obesity, diabetes, tensions, sedentary living and heredity.

The commission urged "safe and reasonable" changes in everyone's diet to reduce saturated fats and cholesterol even though present evidence that such dietary changes would help is now "suggestive" rather than "conclusive." In an effort to obtain "conclusive" evidence, the commission's experts recommended large-scale, federally-financed scientific studies of American eating habits and their consequences in terms of heart-artery health or illness. The commission envisaged studies costing about \$80 million, requiring 10 years and involving some 60,000 persons on typically high-fat diets as subjects.



## AMA-ABA STATEMENT ON ALCOHOLISM

The concept that alcoholism is an illness is the basis of a joint statement recently drafted by the American Medical and American Bar Associations. Among other things, the joint statement said: (1) Alcoholism should be regarded as an illness in medical and hospital care insurance contracts and should be subject to benefits comparable to those applying to other chronic illnesses; (2) Public and private general hospitals should accept, on a nondiscriminatory basis, patients diagnosed as alcoholics; (3) Courses in alcoholism prevention, diagnosis and treatment should be developed.

---

## END PHYSICIAN SHORTAGE

The physician shortage can "in large measure" be solved through a major overhaul in methods of training doctors, according to the new president of the American Medical Association. In his inaugural address, Dr. Walter C. Bornemeier called for new ways of training doctors, including the use of physicians in private practice as teachers. Dr. Bornemeier said at least 50,000 physicians involved in teaching, too-lengthy residency programs, and research could be more valuably related to patient care. This diversion of doctors "has aggravated the current shortage of medical services for the public," he said.

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## NEW COUNT ON MDs

Another 9,978 licensed physicians were added to the U. S. medical population in 1969, according to a report by the American Medical Association's Council on Medical Education. Of these, 2,307 were graduates of foreign medical schools — 122 more than in 1968 and 50 percent more than the average of new foreign-trained licensees for the preceding 10 years. As of Dec. 31, 1969, there were 328,726 physicians in the U. S., including 259,046 licensed physicians. This is a net gain, after deaths and retirements, of 7,554 during the year.

### Seventh National Cancer Conference

Sponsored by the American Cancer Society and the National Cancer Institute

Biltmore Hotel

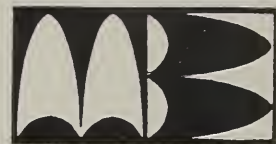
Los Angeles, California

September 27, 28 and 29, 1971

For further information write:

Sidney L. Arje, M.D., Coordinator  
Seventh National Cancer Conference  
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# P R E S I D E N T ' S P A G E

On February 4th and 5th Bob Johnson, from the State Office, and I attended a regional meeting on Peer Review (P.R.O.) at Bloomington, Minnesota sponsored by the Council on Medical Services.

At the 91st Congress, the Bennett Amendment 17,550, Professional Standards Review Organization (PSRO) was introduced. The Social Security amendments eluded passage mainly due to the stern position of Congressman Wilbur Mills. However, a modified PSRO passed the Senate 44-18. At the time of this writing, February 6, this legislation has already been re-introduced to the 92nd Congress as HR #1. This undoubtedly will be passed. There will be no open hearings. The bill will then go to the Senate and then to Conference. This is the only area in which we can voice an opinion. The Bennett PSRO proposal requires the Secretary of H.E.W. to contract with a local organization of physicians to perform professional review and this organization may not be a state medical society. Our physicians dislike involvement with government but the Bennett Amendment allows the Secretary of H.E.W. to contract with whomever he wishes if no organization or instrument is available or comes forward from the private sector. As I understand, they recommend that others than doctors be on the Review Committee.

I think the doctors of South Dakota should consider the possibility of a Foundation for Medical Care. This will need much study, a lot of work, and an educational program for the doctors in regard to its ramifications.

On January 24, 1971 the Iowa State Medical Society at a special meeting of the House of Delegates approved establishing a Foundation.

I also had a long discussion with Dr. Stanley W. Fox and Ervin Schumacher of the Welfare Department regarding the Physicians Report Form G-41. The physician recommends that the welfare recipient receive either skilled nursing care, intermediate care, or adult foster home care. 53% of the people in nursing homes are welfare recipients. Many of these people are classified and receiving skilled nursing home care when they should be receiving intermediate care. The difference in cost is \$100.00 a month. At this time 1500 welfare recipients are receiving skilled nursing care. Several of the blanks that are being returned are not checked in any area, others are checked in all three areas. This is our tax money so it behooves us to complete these forms properly as the Welfare Department can act only on our recommendations. You realize that the Department needs an additional \$1,300,000.00 of state money to complete the fiscal year.

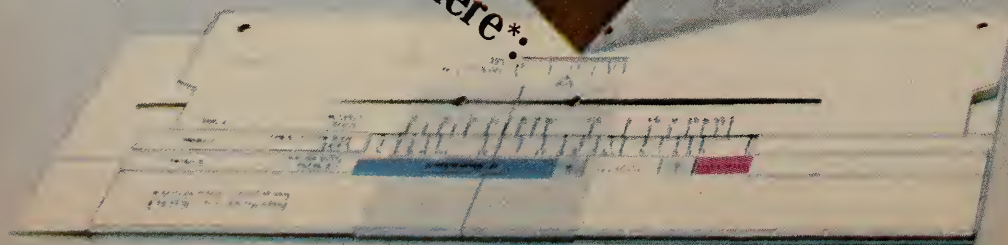
I trust you will cooperate with the Welfare Department.

J. Muggly, M.D., President



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\*in the euthyroid zone  
of the new Free  
Thyroxine Index\*\* with  
full replacement dosage



# Euthroid (liotrix) yields reliable, easily interpreted test values

Because Euthroid incorporates both active fractions of endogenous thyroid— $T_4$  and  $T_3$ —it overcomes the need for special interpretation of thyroid function test values.

Moreover, whatever the therapy used, ordinary tests can be thrown off by such factors as abnormal thyroid-binding protein levels, oral contraceptive use and pregnancy. A new method of assessment—the Free Thyroxine Index (FTI)\*\*—helps eliminate these errors. By relating measurements of total and protein-bound  $T_4$ , the FTI indicates your patient's status precisely. And with Euthroid, the precision of your diagnosis is matched by the precision of your therapy.

## Closest in clinical effect to human endogenous thyroid

Euthroid provides both  $T_4$  and  $T_3$  in the optimum oral ratio of 4:1 by weight and in proper mcg amounts, closely simulating endogenous thyroid in clinical effect. Dose response can be assessed unequivocally through use of the FTI—and because we want you to put Euthroid to the test with this most rigorous of tests, we offer you an aid to easier determination:

## The Euthroidex™ calculator—for the “new math” of thyroid laboratory tests

No longer does FTI determination require you to perform lengthy mathematical exercises. With the Euthroidex calculator—another first from Warner-Chilcott—you compute it easily, accurately...almost instantly. Send for yours now.

In thyroid therapy, Euthroid offers you the calculated success—and the calculator to go with it.

the first synthetic to replace both active fractions of endogenous thyroid

# Euthroid® (liotrix)

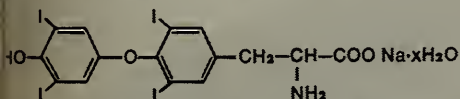
sodium levothyroxine ( $T_4$ )  
sodium liothyronine ( $T_3$ )

Clark, F., and Horn, D. B.: Assessment of thyroid function by the combined use of the serum protein-bound iodine and resin uptake of  $^{131}I$ -triiodothyronine, J. Clin. Endocrinol. 25:39 (Jan.) 1965.

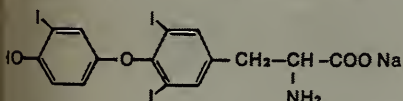
### Euthroid® (liotrix)

**Caution:** Federal law prohibits dispensing without prescription.

Euthroid is synthetic microcrystalline sodium levothyroxine ( $T_4$ ) USP and synthetic microcrystalline sodium liothyronine ( $T_3$ ) USP combined in a constant 4:1 ratio.



sodium levothyroxine (l-thyroxine)  $T_4$



sodium liothyronine (l-triiodothyronine)  $T_3$

**Actions:** Euthroid provides replacement therapy for the thyroactive material normally supplied by the human thyroid. The normal thyroid gland produces and stores thyroglobulin, the active components of which are two metabolically active hormones: l-thyroxine and liothyronine. Euthroid (liotrix) provides a combination of these hormones in purified, synthetic form, supplied in a constant 4:1 ratio in order to simulate as closely as possible the physiologic and metabolic effects of normal endogenous thyroid secretions.

In contrast with the individual synthetic, metabolically active hormones, Euthroid will usually produce normal results for PBI,  $T_3$ , and other thyroid function tests—consistent with clinical progress—when persons with endogenous thyroid deficiencies are made euthyroid. Sodium liothyronine ( $T_3$ ) acts more rapidly and for a shorter period of time than preparations of biological origin. Customarily, its use as a single agent produces inappropriately decreased PBI values. Sodium levothyroxine ( $T_4$ ), on the other hand, is more tightly bound by plasma protein fractions and is somewhat slower acting than sodium liothyronine ( $T_3$ ); its use as a single agent tends to produce inappropriately elevated PBI values. Euthroid, with its unvarying 4:1 ratio of  $T_4$ / $T_3$ , permits interpretation of appropriate laboratory tests consistent with the total clinical status of the patient.

**Indications:** Euthroid (liotrix) provides thyroid replacement therapy in all conditions of inadequate production of thyroid hormones,

namely:

- 1) Hypothyroidism, including cretinism and myxedema.
- 2) Simple (nontoxic) goiter.
- 3) Subacute or chronic thyroiditis including Hashimoto's disease.
- 4) Prevention of goiter in hyperthyroid patients undergoing treatment with thiouracil derivatives.
- 5) Usage in patients who may manifest intolerance to thyroid products of animal origin.

**Contraindications:** Acute myocardial infarction, adrenal insufficiency, hypersensitivity to any component of this drug.

**Warnings:** Liotrix should not be used in the presence of cardiovascular disease unless thyroid replacement therapy is clearly indicated. If the latter exists, low doses should be instituted (Euthroid-1/2 or Euthroid-1) and increased by the same amount in increments at 2-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out and adrenal deficiency due to hypopituitarism corrected before liotrix therapy is started.

If hypothyroidism and adrenal insufficiency exist concomitantly, cortisone or similar steroids should be given at dose levels sufficient to correct the adrenal insufficiency before attempting replacement therapy with thyroid hormones.

Likewise, the possibility of alterations in the prothrombin time must be considered and closely monitored in patients on anticoagulant therapy.

Myxedematous patients are very sensitive to thyroid hormones, and dosage should be started at a very low level and increased gradually.

**Precautions:** Hypothyroid patients are especially sensitive to thyroid preparations, and those with severe hypothyroidism may be unusually so.

Initiation of thyroid replacement therapy in patients with diabetes must be carefully monitored because of potential fluctuation in daily insulin or oral hypoglycemic requirements.

As with all thyroid preparations, this drug will alter the results of thyroid function tests.

**Adverse Reactions:** Overdosage or too rapid increase in dosage of thyroid preparations can produce signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

**Dosage and Administration:** Initial dosage should be low and gradually increased at 2-week intervals until the desired clinical response is obtained.

Laboratory criteria of euthyroidism include a PBI of 3.5 to 8 mcg;  $T_3$ ,  $T_4$ , and BEI tests are useful.

For most patients, a single daily dose of Euthroid-1, -2, or -3 will maintain euthyroidism. Transfer of a patient from a maintenance dose of another thyroid preparation to Euthroid can usually be effected smoothly. See table for initiating therapy or converting from other thyroid preparations.

Euthroid (liotrix)	Approximate Natural Thyroid Equivalents	Synthetic	
		$T_4$ *	$T_3$ **
Tablet	$T_4$ */ $T_3$ ** mcg		
Euthroid-1/2 pale orange	( 30/7.5)	1/2 grain .05 mg	12.5 mcg
Euthroid-1 light brown	( 60/15)	1 grain .1 mg	25.0 mcg
Euthroid-2 violet	(120/30)	2 grains .2 mg	50.0 mcg
Euthroid-3 gray	(180/45)	3 grains .3 mg	75.0 mcg

\* $T_4$ =sodium levothyroxine (l-thyroxine)

\*\* $T_3$ =sodium liothyronine (l-triiodothyronine)

Dosage for cretinism or severe hypothyroidism in children is the same as for adults with myxedema. Eventual maintenance dosage in the growing child may be higher than in the adult.

**Overdosage: Symptoms**—Headache, instability, nervousness, sweating, tachycardia, and unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm; chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

**Treatment**—Shock—Supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered. **Supplied:** Square W/C monogrammed tablets of four potencies, each identified by a different color (see table); bottles of 100 and 1000.

E-GP-11-4C



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To request your Euthroidex™ calculator (with booklet explaining its use and rationale for the FTI), just write "Euthroidex" on your imprinted card, prescription blank or stationery, and mail to Warner-Chilcott, Morris Plains, N.J. 07950.



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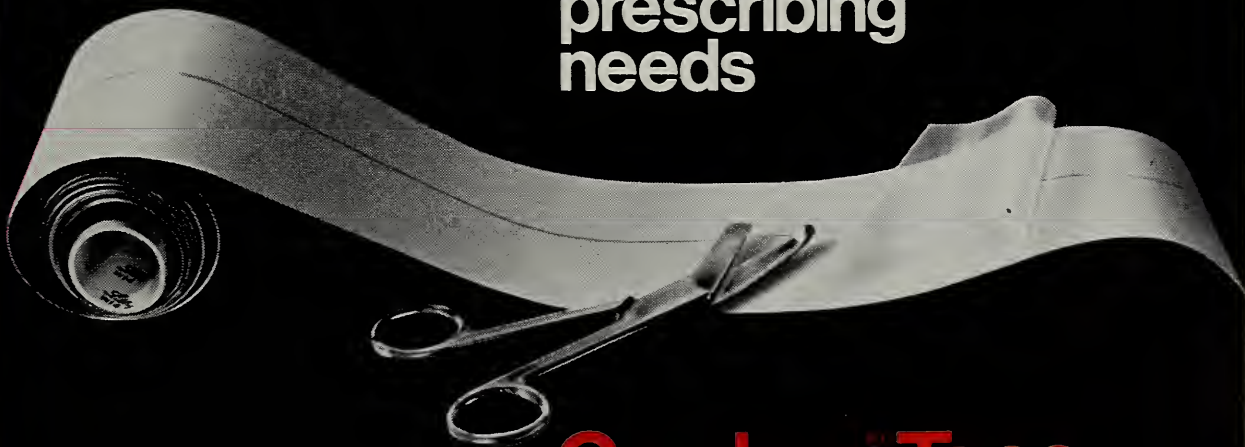
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# IF MORE MEN CRIED

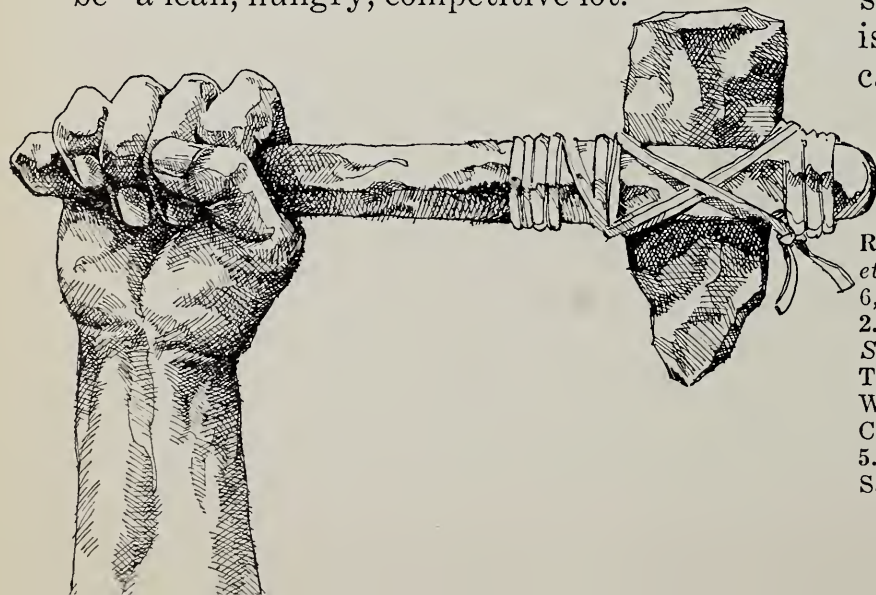


At least seventy-five out of one hundred adults with duodenal ulcers are men.<sup>1</sup>

Why? It may be significant that duodenal ulcer patients tend to crave recognition and are "especially vulnerable to threats to their manly assertive independence."<sup>2</sup>

**Hypersecretion—an atavistic response.** Stewart Wolf, who, with Harold G. Wolff, studied the personalities of duodenal ulcer patients, wonders if masculine competitiveness is related to "an atavistic urge to devour an adversary." It is striking, he reports, that an accentuation of gastric acid secretion and motility can be "induced in ulcer patients by discussions that arouse feelings of inadequacy, frustration and resentment."<sup>2</sup>

**By chance? A lean, hungry lot.** Was the link between emotions and gastric hyperacidity acquired through mutation to serve a purpose? During man's jungle period of evolution, the investigator points out, a male dealt with a foe by killing and devouring it. "It may be more than coincidence," he concludes, that peptic ulcer patients appear to be "a lean, hungry, competitive lot."<sup>3</sup>



**Big boys don't cry.** If more men cried maybe fewer would wind up with duodenal ulcers. But men will be men—the sum total



their genes and what they are taught. Schottstae observes that when mother admonishes her son who has hurt himself that big boys don't cry, she is teaching him stoicism.<sup>4</sup> Crying is the negation of everything society thinks of as manly. A boy starts defending his manhood at an early age

## Take away stress you can take away symptoms

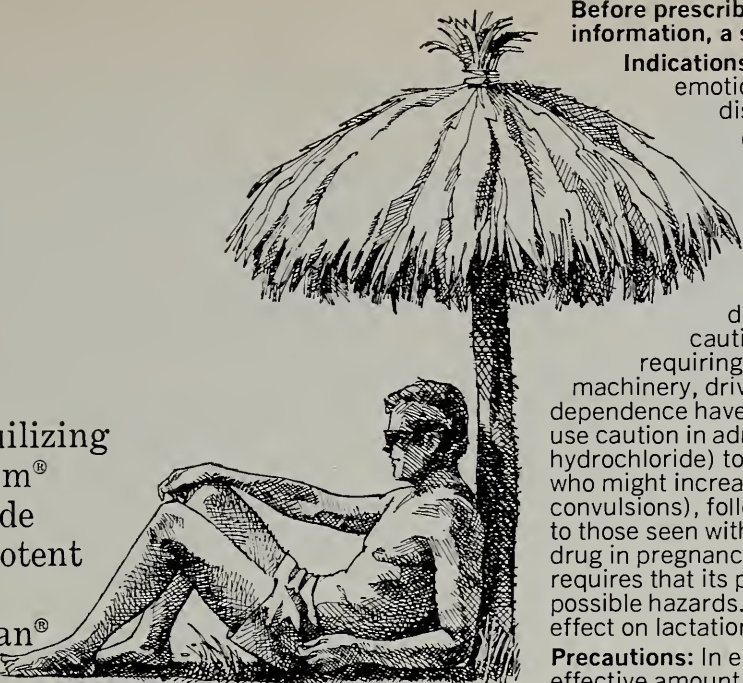
There is no question that stress plays a role in the etiology of duodenal ulcers. Alvarez<sup>5</sup> observes that many a man with an ulcer loses his symptoms the day he shuts the office and starts out on a vacation. The problem is, the type of man likely to have an ulcer is the type least likely to take long vacations or take it easy at work.

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**References:** 1. Silen, W.: "Peptic Ulcer," in Wintrobe, M. et al. (eds.): *Harrison's Principles of Internal Medicine*, 6, New York, McGraw-Hill Book Company, 1970, p. 14. 2. Wolf, S., and Goodell, H. (eds.): *Harold G. Wolff: Stress and Disease*, ed. 2, Springfield, Ill., Charles C. Thomas, 1968, pp. 68-69. 3. *Ibid.*, p. 257. 4. Schottstaeb, W. W.: *Psychophysiologic Approach in Medical Practice*, Chicago, Ill., The Year Book Publishers, Inc., 1960, p. 1. 5. Alvarez, W. C.: *The Neuroses*, Philadelphia, Pa., W. B. Saunders Company, 1951, p. 384.



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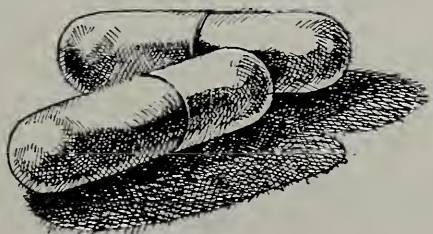


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CONTENTS

Volume XXIV April 1971 Number 4

Giant Follicular Lymphoma of Kidney:  
Arteriographic Findings . . . . . 5  
Martin Frank Petereit, M.D.

When to Catheterize the Patient with  
Suspected Congenital Heart Disease . . . . . 13  
Spencer B. King III, M.D.; Fred W.  
Schoonmaker, M.D.

Letter to Editor . . . . . 19

President's Page . . . . . 22

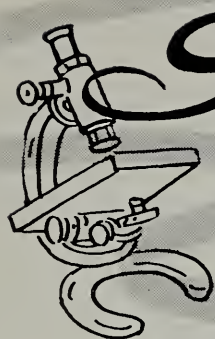
Clinicopathological Conference . . . . . 27

Trichotillomania . . . . . 36  
Stuart B. Simon, M.D.

This Is Your Medical Association . . . . . 44

20 Years Ago in the Journal . . . . . 49





# Scientific P A P E R

## GIANT FOLLICULAR LYMPHOMA OF KIDNEY: ARTERIOGRAPHIC FINDINGS

Martin Frank Petereit, M.D.\*

Renal involvement by malignant lymphoma is a frequent autopsy finding,<sup>2, 3, 5</sup> however, the diagnosis prior to death is much less common.<sup>5</sup> The reports of arteriographic findings in renal lymphoma are few.<sup>1, 2, 4, 6</sup> This communication is to report another such case and to point out the marked variability in the arteriographic picture of the cases reported thus far.

### CASE REPORT

A.B., a 52-year-old white male, developed a left upper quadrant painful mass, one month prior to admission. There was no weight loss, fever, chills, or hematuria. A large, tender mass was easily palpated in the left upper and mid-abdominal area. The physical examination was otherwise unremarkable. Urinalysis revealed a few red blood cells and white blood cells per high power field. The sedimentation rate was elevated. The other laboratory tests were normal. An intravenous urogram showed a normal appearing right kidney and a nonfunctioning left kidney. A retrograde pyelogram demonstrated an enlarged kidney with a distorted and stretched, but intact, collecting system (Fig. 1). This was felt to be a renal-cell carcinoma by the clinician. However, it seemed highly unusual to have a renal-cell carcinoma grow to the point of causing nonvisualization without destroying a portion of the collecting system. Therefore, a lymphoma was suspected. A retrograde femoral aortogram was performed, using the Seldinger technique. This study revealed (Figs. 2 and 3) narrowing of the left renal artery and all of its branches. The branches were stretched and spread, numerous tiny irregular vessels were visualized, and the flow through the kidney was slowed. No tumor stain was seen. A closed-end teflon catheter was used and thus, a selective study did not seem necessary.

Figure 1.



Left retrograde pyelogram. The collecting system is stretched and distorted but it appears intact. The calyces are dilated. The renal shadow is not clearly seen, but the kidney is considerably enlarged. An intravenous urogram, done the previous day, showed a normal appearing right kidney and no visualization on the left.

Re-examination of the patient revealed that the lymph nodes, in the inguinal regions and in the right axilla, were a little larger than normal. One inguinal and one axillary node were biopsied. The diagnosis was: "malignant lymphoma, giant follicular type (nodular lymphoma)." The following note was added: "according to Rappaport, all nodular follicular lymphomas will eventually become a diffuse type of

\* Medical X-ray Center, Sioux Falls, South Dakota.

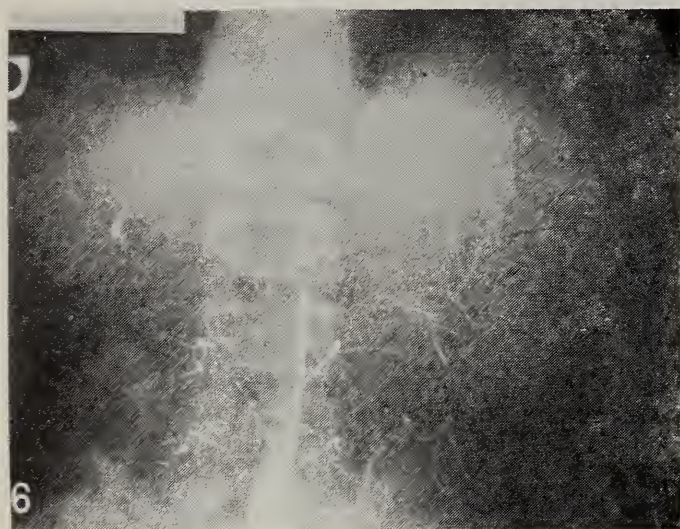


Figure 2.



Retrograde femoral abdominal aortogram. The left renal artery is narrowed. The branches of this artery are narrowed, stretched, and spread.

Figure 3.



Two seconds after the film in Fig. 2. There is persistent opacification of the left renal artery branches. Numerous tiny irregular vessels are present, but no definite tumor stain was seen.

another lymphoma. There are cells suggestive of Reed-Sternberg cells in some fields and this may become a diffuse form of Hodgkin's at a later date."

Also, the chest roentgenogram showed a small lobulated mass in the sub-carinal area.

Because of the microscopic report and an arteriographic picture consistent with a diffusely infiltrative process of the kidney, no operative procedure was done. Using cobalt 60, a tumor dose of 3000 rads was delivered to the left renal area over a 24 day period. The mass decreased in size rapidly. The intravenous urogram was repeated, but there was still no function on the left. The patient expired elsewhere 2 months later. No autopsy was done.

## DISCUSSION

Although a renal biopsy is lacking, when considering the picture shown on retrograde pyelography and arteriography (almost identical to the case reported by Williams et al.<sup>6</sup>), the lymphomatous nodes in the axilla and groin, the sub-carinal mass, and the response to radiation therapy, there can be little doubt that this was a lymphoma. However, it is possible that it was a different type of lymphoma, especially, Hodgkin's disease.

In a large number of autopsies of malignant lymphoma (Richmond et al.<sup>3</sup>), the kidneys were involved in 13 to 63 per cent of cases, depending on the type of lymphoma the patient had. Multiple nodules were present in 61 per cent of these cases. However, in another series (Lalli<sup>2</sup>), there was diffuse renal infiltration in 50 per cent of cases. The radiographic findings in our case would be consistent with either diffuse infiltration or multiple nodules.

The angiographic findings described in the renal lymphomas have been quite varied and have consisted of various combinations of: narrowed, displaced and stretched arteries, avascular areas, small or large tumor vessels, prolonged arterial filling, tumor stain, no tumor stain, thickened capsule, and renal vein compromise with venous drainage via collaterals.<sup>1, 2, 4, 6</sup> Most of these cases presented with a solitary mass, which compressed and distorted the collecting system, but left it intact. Usually, the over-all roentgenographic picture resembled renal cell carcinoma.

Thus far, it would seem that there is no characteristic arteriographic pattern in renal lymphoma. **Orderly arranged** tumor vessels<sup>1, 4</sup> should suggest the diagnosis, but this vascular pattern has been observed in perirenal abscess and metastasis to the kidney.<sup>1</sup>

## CONCLUSION

Renal involvement by malignant lymphoma is not unusual. The diagnosis is not often made, prior to death. The arteriographic findings in the few reported cases have been quite variable. There does not appear to be any characteristic vascular pattern in renal lymphoma, however, a diffusely enlarged kidney with narrowed, stretched, and spread arteries or a localized renal mass with orderly arranged tumor vessels should suggest the diagnosis.

(Continued on Page 9)



(Continued from Page 6)

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### A LOT OF TALK

1971 is going to be a "health" year, according to the WALL STREET JOURNAL. "The biggest danger . . . is that Washington, in attempting to protect more people through insurance and other schemes, will merely expand the demand for medical services, not the supply. And the most likely result of that is further inflation of medical costs, with no real improvement in service."

### AMA BACKS NIXON'S CANCER CAMPAIGN

The American Medical Association has endorsed President Nixon's campaign for finding a cancer cure. In a letter to the President, Walter C. Bornemeier, M.D., AMA president, expressed medicine's support of "an increased national effort to seek cures for cancer and methods of preventing this disease. We believe this activity should be conducted through the National Institutes of Health rather than through an independent national cancer authority."

### DENTAL REVIEW COMMITTEES IN 36 STATES

Thirty-six state dental societies have established review committees for prepayment programs and four are being established, according to an American Dental Association council on dental care programs survey. The functions of the committees are "to determine the relevancy of the usual, customary and reasonable fee, of treatment procedures to the terms of the contract, and may include assessment of quality of services rendered." ADA policy which was set in 1967 by the house of delegates calls on state dental societies "to assume leadership in establishing professional review committees for prepayment programs."

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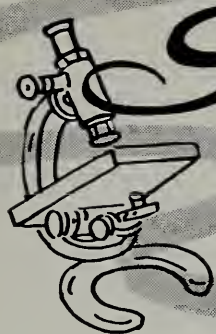
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# Scientific

# PAPER

## WHEN TO CATHETERIZE THE PATIENT WITH SUSPECTED CONGENITAL HEART DISEASE

Spencer B. King, III, M.D.  
 Fred W. Schoonmaker, M.D.  
 Cardiovascular Laboratory  
 Saint Luke's Hospital  
 Denver, Colorado

Over one half of the children born with congenital heart disease will die before one year unless the correct diagnosis is made and the appropriate treatment is instituted.<sup>1</sup> When congenital heart disease is suspected because of a murmur, because of cyanosis or because of congestive heart failure, a tentative diagnosis may be made by paying close attention to the first four fingers of the diagnostic hand, i.e.: the history, the physical examination, the electrocardiogram and the chest x-ray. Confirmation of the initial impression is required, however, and the best special studies are cardiac catheterization and cineangiography. These procedures not only establish a diagnosis, but accurately define the severity of a lesion and exclude commonly associated abnormalities which are often clinically unsuspected. These techniques are also used when the presence of congenital heart disease is suspected on the basis of non-diagnostic signs and symptoms. In addition, cardiac catheterization is quite valuable in evaluating the completeness of surgical repair. We would like to review the specific indications for catheterization.

The cyanotic newborn should be catheterized if heart disease cannot be ruled out as a cause of the cyanosis. Though cyanosis may be a sign of pulmonary, central nervous system, or metabolic disease, these problems may often be identified by close and repeated observation. When cyanosis secondary to heart disease is suspected, catheter studies should not be delayed.

The reasons are three-fold: First, the cyanotic infant will seldom get better if the study is postponed, and indeed will usually get worse. Next, early catheterization may prevent the necessity of emergency catheterization at a time when marked polycythemia, hypoxia and/or acidosis would make the procedure itself risky. And finally, in the transpositions and in the case of tricuspid atresia with a small atrial communication, enlargement of the atrial septal defect by balloon septostomy at the time of catheterization may produce marked hemodynamic and clinical improvement. Cardiac catheterization allows patients with severe tetralogy of Fallot or pulmonary atresia to be identified early in the course of their disease. The technical feasibility of systemic to pulmonary shunt procedures can be evaluated at the same time. Some patients will develop cyanosis later in childhood. Although most of them will have tetralogy of Fallot, catheterization should be done when these children are first identified in order to make the diagnosis and to rule out other lesions. Cyanosis that develops in a child with a murmur may be an ominous sign that shunt reversal has occurred due to pulmonary hypertension.

In infants, signs of tachypnea, tachycardia, poor feeding, costal retractions, hepatomegaly, and diaphoresis should suggest congestive heart failure.<sup>2</sup> In the first week of life, this is most often caused by some form of hypoplastic left heart. After the neonatal period other congenital diseases may be responsible: coarctation of the



aorta, transposition of the great vessels, fibroelastosis, ventricular septal defect, patent ductus arteriosus, atrioventricular canal, or total anomalous pulmonary venous return.<sup>3, 4</sup> Virtually all children with congestive heart failure should be catheterized in the hope of finding a surgically correctible lesion—the exception, of course, being the child with acute rheumatic fever.

Congestive heart failure can often be improved prior to catheterization by medical management—again, if the patient does not respond, prompt catheterization and subsequent surgical intervention may be indicated. In the infant, for example, pulmonary banding (in the case of a left to right shunt), resection of a coarctation, or ligation of a patent ductus may be recommended after the diagnosis is established by catheter studies.

In the child with a clinically suspected left to right shunt who is not in failure, catheterization can usually be postponed until an age when surgical repair is planned—this surgery is usually done just prior to entering school in the case of an atrial septal defect, a patent ductus arteriosus, or a relatively large ventricular septal defect.<sup>5</sup> It should be noted, however, that if the signs of significant pulmonary flow (such as a

filling rumble) disappear, catheterization should be done at once to rule out the development of pulmonary hypertension. In the ventricular septal defects, early studies are often quite helpful in the management of a patient—a small VSD might close spontaneously and thus avoid an unnecessary operation. The size and severity of the lesion can be a guide in counseling the patient as to his activity at school or participation in athletics, and finally catheterization may reveal an unsuspected additional abnormality that might have caused surgical problems had its presence not been known.

Patients with pulmonic stenosis and obstructive outflow lesions should be catheterized prior to school because the lesions with high-grade obstruction will have to be operated. The patients with mildly stenotic valves can be assured that surgery will not be necessary. Patients with aortic stenosis are catheterized when symptomatic with angina, congestive heart failure or syncope, or when x-ray and EKG evidence of left ventricular hypertrophy appears. A bicuspid aortic valve is the most common cause of calcific aortic stenosis in adults, but again no studies are necessary unless signs and symptoms of left ventricular enlargement or

(Continued on Page 17)

one capsule for the rest of the night



Before prescribing, please consult complete product information, a summary of which follows:

**INDICATION:** Relief of insomnia of varied etiology.

**CONTRAINDICATIONS:** Patients with known hypersensitivity to the drug.

**WARNINGS:** Caution patients about combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness, such as operating machinery or driving a motor vehicle shortly after ingesting the drug.

**Physical and Psychological Dependence:** Physical and psychological dependence rarely reported. If withdrawal symptoms do occur they may resemble those associated with

withdrawal of barbiturates and should be treated in the same fashion. Use caution in administering to individuals known to be addiction-prone or those whose history suggests they may increase the dosage on their own initiative. Repeat prescriptions should be under adequate medical supervision.

**Usage in Pregnancy:** Weigh potential benefits in pregnancy, during lactation, or in women of childbearing age against possible hazards to mother and child.

**PRECAUTIONS:** If sleeplessness is pain-related, an analgesic should also be prescribed. Perform periodic blood counts if used repeatedly or over prolonged periods. Total daily intake should not exceed 400 mg, as greater amounts do not significantly in-

crease hypnotic benefits.

**ADVERSE REACTIONS:** At recommended dosages, there have been rare occurrences of morning drowsiness, dizziness, mild to moderate gastric upset (including diarrhea, esophagitis, nausea and vomiting), headache, paradoxical excitation and skin rash. There have been a very few isolated reports of neutropenia and thrombocytopenia; however, the evidence does not establish that these reactions are related to the drug.

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(Continued from Page 14)

overload are present.

Hypertension associated with a low amplitude and delayed pulse with decreased blood pressure in the legs may point to the diagnosis of coarctation of the aorta. This lesion is best corrected at about 8-10 years, and catheterization can usually be deferred until then in asymptomatic patients. If hypertension is marked, however, or if congestive failure ensues, then catheterization and surgery may be needed earlier.

More than 25% of all children may have innocent or functional murmurs,<sup>6</sup> and catheterization obviously should not be done in all of them. These murmurs may include venous hums, supraclavicular arterial bruits, Still's murmur (a mid-systolic, mid-precordial, vibratory twanging sound), and some pulmonary ejection murmurs — particularly those of short duration, of low intensity, and not associated with an ejection click. Children with pectus excavatum and straight backs frequently tend to have the latter finding. Failure to recognize these murmurs as innocent may lead to the development of a cardiac neurosis with unnecessary restriction of the child's activity. When the clinician cannot give a clean bill of health to these patients because of atypical features of the murmur or because of a problematical clinical presentation, then cardiac catheterization may be quite helpful and even therapeutic.

In some patients with congenital disease, catheterization is sometimes not indicated. For example, extra studies in the patient with Eisenmenger's physiology are usually academic. Patients with a mild degree of pulmonary stenosis generally do not show progression of the stenosis<sup>7</sup> and repeated studies are unnecessary once the initial impression is confirmed. Small ventricular septal defects tend to get smaller and need not be re-studied unless the clinical picture changes.

With the improvement in the technical aspects of catheterization and cineangiography, and with the very low morbidity now associated with these procedures, it can be safely said that there are no absolute contraindications to these studies. We would like to re-emphasize the importance of catheterizing all patients before surgical procedures are undertaken, not only to better define the lesions but also to identify occult abnormalities that might pose significant problems were they first discovered at the time of surgery.

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## SCHOOL ENROLLMENT

A recent Bureau of the Census report on school enrollment shows that between 1964 and 1968, school enrollment increased by 12 percent to a total of 58.8 million. Nursery school enrollment increased by 73 percent and college enrollment by 46 percent. The report also shows that Negroes were more likely to be high school dropouts than were whites, and Negroes made substantial gains in college enrollment. In 1968, 434,000 Negroes enrolled in college — 6 percent of total college enrollment — an increase of 85 percent over the number of Negroes enrolled in 1964.

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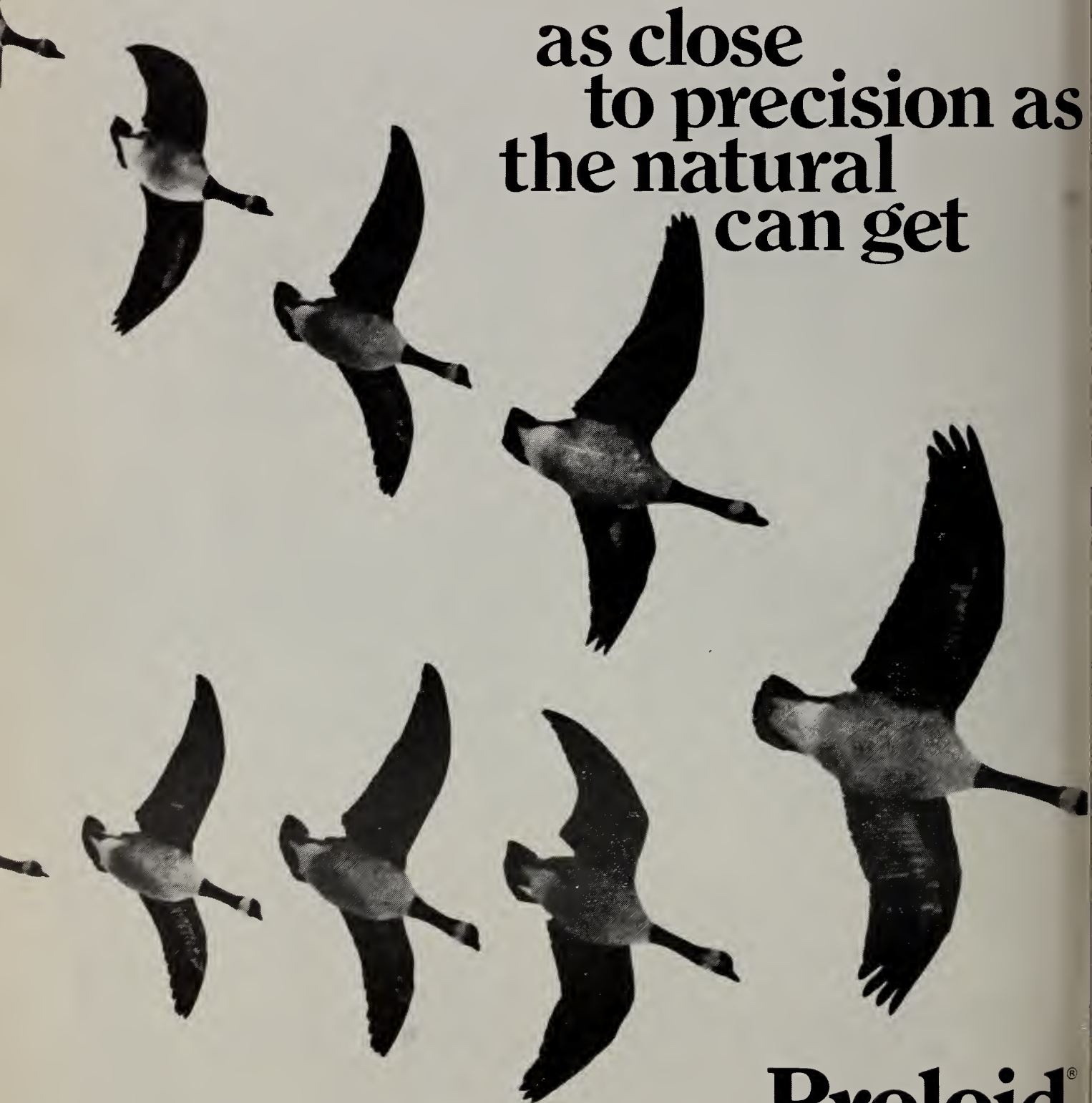
graphic analysis for  $T_4$  and  $T_3$  content and including testing in hypothyroid humans—Proloid is made as precise as the natural product can get, batch after batch.

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The ratio of  $T_4$  and  $T_3$  in Proloid (thyroglobulin) is approximately 2.5 to 1.

Proloid (thyroglobulin) is stable when stored at usual room temperature.

**Indications:** Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in non-emergency situations, in an attempt to reduce the size of such goiters.

**Contraindication:** Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

**Warnings:** Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid, and dosage should be started at a very low level and increased gradually.

**Precaution:** As with all thyroid preparations this drug will alter results of thyroid function tests.

**Adverse Reactions:** Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

**Dosage and Administration:** Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR,  $T_3$   $^{131}$ I resin sponge uptake,  $T_3$   $^{131}$ I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of  $T_4$  and  $T_3$  is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

**Instructions for Use:** The following conversion table lists the approximate equivalents of other thyroid preparations to Proloid (thyroglobulin) when changing medication from desiccated thyroid,  $T_4$  (sodium levothyroxine),  $T_3$  (sodium liothyronine), or  $T_4/T_3$  (liotrix).

Dose of Proloid (thyroglobulin)	Dose of desiccated thyroid	Dose of $T_4$ (sodium levothyroxine)	Dose of $T_3$ (sodium liothyronine)	Dose of liotrix ( $T_4/T_3$ )
1 grain	1 grain	0.1 mg	25 mcg	$\pm 1$ (60 mcg/15 mcg)
2 grains	2 grains	0.2 mg	50 mcg	$\pm 2$ (120 mcg/30 mcg)
3 grains	3 grains	0.3 mg	75 mcg	$\pm 3$ (180 mcg/45 mcg)
4 grains	4 grains	0.4 mg	100 mcg	
5 grains	5 grains	0.5 mg	125 mcg	

In changing from Thyroid USP to Proloid (thyroglobulin), substitute the equivalent dose of Proloid (thyroglobulin). Each patient may still require fine adjustment of dosage because the equivalents are only estimates.

**Overdosage Symptoms:** Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

**How Supplied:**  $\frac{1}{4}$  grain;  $\frac{1}{2}$  grain; scored 1 grain;  $1\frac{1}{2}$  grain; 3 grain; and scored 5 grain tablets, in bottles of 100 & 1000; and scored 2 grain tablets in bottles of 100.

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# Letter to Editor

March 9, 1971

Mr. Richard C. Erickson  
Executive Secretary  
South Dakota State Medical Association

Dear Mr. Erickson:

I would like to thank you and the South Dakota State Medical Association for the scholarship which was presented to me through Dr. Knabe. I am sorry I have not been able to write sooner to tell you of my gratitude for being granted this award and hope to show myself worthy of the scholarship. I realize it is quite a tribute to receive this award and once again I would like to say that I will definitely try to be a worthy recipient of this scholarship.

Thank you very much,  
William J. Dendinger

## CORRECTION

Regional Foundation Meetings sponsored by Foundations for Medical Care and the Department of Health, Education and Welfare.

Correct dates and places are:

April 16, 17, 18 — Rochester, New York

April 23, 24, 25 — Charleston, South Carolina

May 7, 8, 9 — Des Moines, Iowa

June 9, 10, 11 — Hawaii

## Postgraduate Course Chronic Inflammatory Disease of the Gut

Sponsored by	American Gastroenterological Association
Date	July 29-31, 1971
Place	Aspen, Colorado
Course Chairman	Marvin H. Sleisenger, M.D. Professor of Medicine and Vice Chairman, Department of Medicine, University of California School of Medicine
Associate Chairmen	Fred Kern, Jr., M.D. Professor of Medicine and Head, Division of Gastroenterology, University of Colorado School of Medicine  Jerry S. Trier, M.D. Associate Professor of Medicine, Boston University School of Medicine
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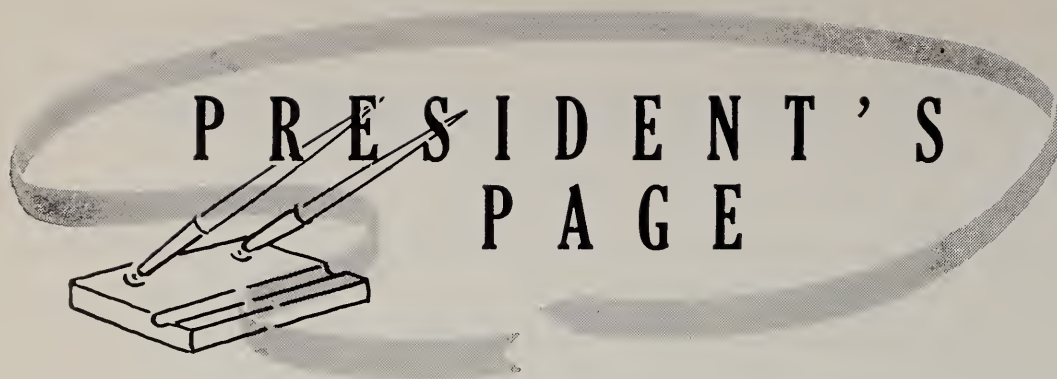
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I feel that our members should become knowledgeable about Foundations for Medical Care as I foresee the subject will be discussed at various levels of our Association.

To me it is an instrument of the profession which preserves free choice of physician and fee for service. It oversees delivery of medical care. It develops norms and standards of care and stresses peer and utilization review. It encourages comprehensive medical care. It contracts with the insurance industry and also with governmental agencies.

Foundations for medical care which now exist are incorporated bodies under sponsorship of state and/or county medical societies. The medical society nominates and elects the Board of Directors. Some foundations have community representation on the Board. Every member of the medical association may apply for membership and if elected may participate in all programs and activities of the foundation. The foundations can be fashioned to individual state needs. The San Joaquin Foundation of California for medical care is different in some respects than the Hennepin County Foundation (Minneapolis).

The first foundation was established in California in 1954. It got its early impetus when the Kaiser Permanente closed-panel approach to delivery of health care posed a threat to the believers in the free choice philosophy.

The right to practice medicine on a fee for service basis has likewise been a cornerstone in all Foundations for Medical Care.

The foundation becomes the professional mechanism for establishing and advocating certain health criteria — comprehensive care programs are desired by individuals, demanded by labor and negotiated by management. This means Foundations must be prepared to say exactly what constitutes comprehensive care. The Foundation assumes the important and fundamental task of developing a health care plan and it encourages use of it by prepaid plans, by private insurance, labor, etc.

Should the Bennett PSRO become law it will require the involvement in South Dakota of a professional review instrument other than the State Medical Society. A Foundation for Medical Care might be the instrument. With all the legislation pending, I think we should give some thought to Foundations for Medical Care.

I am grateful to J. H. Sunderbruch, M.D., President of Iowa State Medical Society and to K. E. Lister, M.D., Chairman of the Iowa State Medical Society Committee on Medical Foundations for the material furnished me.

The Iowa State Medical Society is establishing a Foundation for Medical Care.

J. Muggly, M.D., President





# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



DORENCE L. ENSBERG, M.D., FACS\*  
*Surgeon - Discussor*

JOHN F. BARLOW, M.D., FCAP\*\*  
*Pathologist - Editor*

## SIXTY-EIGHT YEAR OLD WOMAN WITH ABDOMINAL PAIN, WEAKNESS AND FEVER

### CASE NO. M489800

This 68-year old Caucasian married female entered Sioux Valley Hospital with a chief complaint of weakness and abdominal pain of five weeks duration.

The patient had been well until five weeks prior to admission when she noted the onset of anorexia, progressive weakness and discomfort mainly in the right upper quadrant and mid substernal region after meals. This was not associated with any particular kind of food. There was no weight loss, nausea, vomiting or abnormal bowel habits. There was no history of jaundice.

There was no history of excess alcohol intake or specific medications. She had had a hysterectomy apparently for a nonmalignant condition six years previously. The review of systems was negative. The gallbladder was noted to have stones at the time of the hysterectomy.

Before admission to Sioux Valley she had been admitted to the Pipestone County Hospital in Pipestone, Minnesota. At that time physical examination revealed a lady in some distress with temperature of 99<sup>2</sup>, pulse 100/minute, respirations 24/minute and blood pressure 124 systolic and 70 diastolic. There was no jaundice. There were no abnormalities of the head or neck. The breasts were negative. The chest was clear to auscultation and percussion. The heart was not enlarged to percussion. There were no murmurs. There was a normal sinus rhythm. The spleen was not palpable. There was tenderness without spasm in the right upper quadrant but no definite masses were palpable. The ex-

trémities were unremarkable. The reflexes were intact.

Clinical pathology data: Urinalysis: amber, slightly cloudy, pH 5.0, specific gravity 1.015, negative for albumin, glucose, acetone. The sediment revealed 20-25 leukocytes per high power field. Admission hemoglobin 11.8 gms/100 ml., hematocrit 36%. Total leukocyte 13,150/mm<sup>3</sup> with 85% polys, 4% eosinophils and 11% lymphocytes. Platelet count was 404,000/mm.<sup>3</sup> Fasting blood sugar 107 mgs/100 ml., blood urea nitrogen 14 mgs/100 ml., bilirubin total 0.77 mgs/100 ml., direct 0.22 mgs/100 ml., and indirect 0.55 mgs/100 ml. Uric acid 13.3 mgs/100 ml. A glucose tolerance test revealed fasting sugar 122 mgs/100 ml., ½ hour 172 mgs/100 ml., one hour 192 mgs/100 ml., 2 hours 266 mgs/100 ml., 3 hours 179 mgs/100 ml. There was only one urine specimen at 2 hours and this was negative for acetone and sugar. A serology was nonreactive. Serum glutamic oxaloacetic transaminase was 26 R-F units. Alkaline phosphatase was 5.5 sigma units (normal 0.8-2.3 units). Lactic dehydrogenase 635 units. Sodium 134 meq/L., potassium 3.7 meq/L., chloride 100 meq/L.

Chest x-ray showed mild cardiac enlargement mainly of the left ventricle. There was some ectasia of the aorta and there was borderline hilar adenopathy. There was some increase in density at the left base attributed to pleural thickening. There was a horizontal bandlike area of fibrosis at the right base. Lateral view of the abdomen was made to further define a ring-like zone of calcification in the right upper quadrant which was interpreted as calcium in the wall of the gallbladder. Barium enema showed minimal diverticulosis of the sigmoid and descending colon. The remainder of the colon was normal. The upper gastrointestinal series showed only the previously described calcification which was described as possible "porcelain gallbladder," an unusually large calculus in the gallbladder or possible hepatic artery

\*Surgeon, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.

\*\*Pathologist, Sioux Valley Hospital, Professor of Clinical Pathology, School of Medicine, University of South Dakota.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.



aneurysm. A gallbladder examination was not performed. While the patient was in the hospital, she developed difficulty voiding which required an indwelling catheter. Urine cultures showed no growth. The patient developed a fever up to 103°F in the afternoon. Blood cultures were negative on two occasions as were agglutinations for brucella and tularemia. The patient was treated with premarin, steroids, cephaloridine and cephalothin with some decrease in the fever. The hemoglobin declined to 9.4 gms/100 ml., and the total leukocyte count progressively increased to a high of 39,000 with 80-90% in the polys. There was no increase of basophils noted on smear. A bone marrow examination showed myeloid hyperplasia. A leukocyte alkaline phosphatase was 256 with a control of 58. The blood urea nitrogen climbed to 40mg/100 ml. Because of abdominal distention a nasogastric tube was passed after which a mass could be felt in the right upper quadrant.

She was transferred to Sioux Valley Hospital where admission physical examination revealed a temperature of 97°F, pulse 88/minute, respirations 32/minute, blood pressure 112 systolic and 68 diastolic. The patient was described as well developed, obese and in acute distress. The sclerae were mildly icteric. The optic discs were normal but the vessels had moderate arteriovenous nicking. There were bilateral basilar crepitant rales. Examination of the heart was unremarkable. The abdomen was soft and obese. There was marked tenderness in the right upper quadrant. The liver was palpable at 4 finger breadths below the right costal margin and was very tender. Ascites was present. There were no other palpable masses in the abdomen. There was 1+ bilateral pitting edema of the ankles.

Clinical pathology data: Hemoglobin 10.1 gms/100 ml., red blood cell count 3.49 million/mm<sup>3</sup>, hematocrit 32 Vol.%, mean corpuscular hemoglobin 29 micromicrograms, mean corpuscular volume 92 cubic micra, mean corpuscular hemoglobin concentration 32%. Total leukocyte count 33,000/mm<sup>3</sup> with 73% segmented neutrophils, 20% neutrophilic bands, 7% lymphocytes, 1% myelocytes, nucleated red cells — 1 per 100 leukocytes. There was toxic granulation in the neutrophils. The red cells showed slight anisocytosis and occasional polychromatophil cells. Platelets were adequate. Erythrocyte sedimentation rate was 42mm/hr. Serum sodium was 135 meq/L., potassium was 3.2 meq/L., chloride 100 meq/L., carbon dioxide content 24 meq/L. Serum ammonia 41 micrograms%. A leucine aminopeptidase was 360 units (normal up to 250 units).

Febrile agglutinins for salmonella, rickettsia, brucella and tularemia were negative. Serum amylase was 183 units (normal 20-160 units). Blood urea nitrogen was 32 mgs/100 ml. Total protein was 5.6 gms/100 ml., albumin 2.4 gms/100 ml., alpha-1 globulin 0.5 gms/100 ml., alpha-2 globulin 1.0 gms/100 ml., beta globulin 0.9 gms/100 ml., gamma globulin 1.4 gms/100 ml. Serum glutamic oxaloacetic transaminase 103 R-F units. Total bilirubin 2.0 mgs/100 ml., direct 1.5 mgs/100 ml. and indirect 0.5 mgs/100 ml., prothrombin time 12.0 seconds with a 13.0 second control. alkaline phosphatase 6.8 sigma units. Lactic dehydrogenase 1140 units. Fractionation of the lactic dehydrogenase showed elevation of fractions 3, 4 consistent with lung, pancreatic disease or carcinoma. Creatine Phosphokinase was 10 units. Arterial pH 7.52, pCO<sub>2</sub> 27 mm. of Hg, carbon dioxide content 23 meq/L., pO<sub>2</sub> 36 mm of Hg and O<sub>2</sub> saturation 77.5%. After O<sub>2</sub> therapy pH was 7.42, pCO<sub>2</sub> 30 mm. of Hg, carbon dioxide content 18 meq/L., pO<sub>2</sub> 188 mm of Hg and O<sub>2</sub> saturation 99%. Uric acid was 9.9 mgs/100 ml. Three blood cultures showed no growth.

A chest X-ray showed a strand of linear atelectasis at the left base and perhaps some minimal patchy consolidation. On the right there was a zone of either linear atelectasis or pleural thickening in the minor fissure. Abdominal films showed the previously described abnormalities. Electrocardiograms were abnormal. Sinus tachycardia, marginal low voltage, subendocardial anterior myocardial ischemia, right ventricular strain and atrial fibrillation alternating with sinus rhythm were described. A liver scan employing colloidal gold-198 showed diffuse areas of decreased uptake in an enlarged liver. This was interpreted as nonspecific changes. An operation was performed.

DR. ENSBERG: Although this is a long protocol and a complex case, I think the differential diagnosis narrows down to only a few possibilities. May we see the x-rays first?

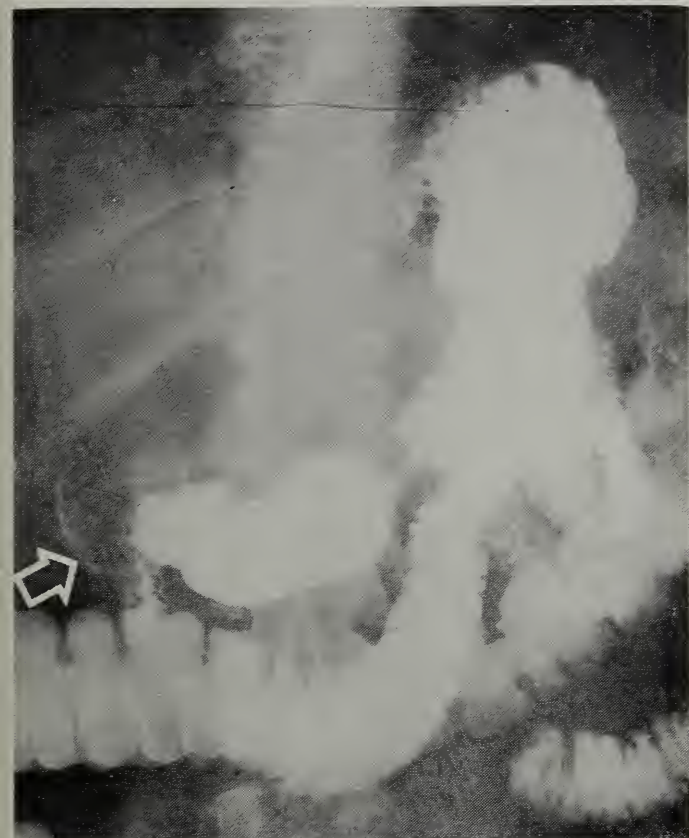
\*DR. LELAND LARSON: The outside films taken April, 1969, are shown here. This is an upper gastrointestinal series and a curvilinear density can be seen on the plain film and also on the lateral view. This type of calcification would make one think of a hydatid cyst, possibly an hepatic artery aneurysm, calcification in the kidneys or calcification in the gallbladder. The calcification in the kidneys is ruled out by the lateral films. The calcification definitely appears to be within the wall of the gallbladder.

\*Radiologist, Sioux Valley Hospital.



One might call this a "porcelain" gallbladder, a condition usually associated with stones in the neck of the gallbladder or in the cystic duct. (Fig. I.)

Figure I.



Arrow points to semicircular ring of calcification discussed in the protocol.

DR. ENSBERG: Is there a chest x-ray?

DR. LARSON: Here is a portable chest x-ray. There is an elevated right hemidiaphragm with some blunting of the left costophrenic angle. This could be either due to fluid or pleural thickening. There is also some linear atelectasis in the left base.

DR. ENSBERG: Thank you. There was also a liver scan which may be of help. May we see that?

\*\*DR. DURWARD M. LANG: This is an anterior and lateral projection of a liver scan. The study was done with radioactive Au-198 after intravenous injection. In retrospect, perhaps we could have done this with Rose-Bengal I 131 to see a better view of the excretory ducts. The radioactive gold is taken up by the Kupfer cells of the liver. There is a diffuse mottled pattern as can be seen in metastatic tumor, congestion of the liver, cysts or abscesses. (Fig. II.)

\*DR. ROSSING: Is that a normal finding with

Figure II.



Anterior view of liver on radioisotope scan showing defect in region of gallbladder and mottling of liver in general.

a notch in the superior border of the liver?

DR. LANG: Yes, I think that this is within normal limits.

DR. LARSON: On one projection there seems to be a defect in the anterior border of the liver.

DR. LANG: I think we have to call this within normal limits. A tumor at the inferior portion of the liver is easily missed because there is no contrast of dense radioisotope in liver behind the tumor. Any large tumor or abscess which will show up as a large clear space can easily be seen.

DR. ENSBERG: In essence, we have a woman who was sick for five weeks with general symptoms of weakness and anorexia. There was no significant weight loss which would suggest that this might have been an acute process. A constant finding was tenderness in the right upper quadrant. There was no nausea and vomiting but there was some relation of the discomfort to food. There was no jaundice.

After the patient got to the hospital there was little change in the picture. The patient had a fever which was as high as 103° and I am deducing that fever was a significant feature of her clinical course. Her white count which was

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\* Internist, Sioux Valley Hospital, Associate Clinical Professor of Medicine, School of Medicine, University of South Dakota.



initially normal became progressively elevated with a shift to the left. The tenderness in the right upper quadrant persisted; but initially, at least, there was no mass. Significant laboratory data included the elevated white count and an elevated serum alkaline phosphatase would suggest an obstructive phenomenon in the biliary tree. I do not know what to make of the slightly elevated uric acid. The calcification in the right upper quadrant which has already been discussed is of great significance. Calcified gallbladder, a large gallstone or an aneurysm are possibilities. The leukocyte alkaline phosphatase was elevated and this suggests infection.

After the patient was transferred to this hospital we have the picture of an obese sick woman who now has developed jaundice. This suggests a process going on in the region of the bile ducts. The tenderness in the right upper quadrant is again present. At this point we find a mass which is described as the liver which is 4 finger breadths below the costal margin. Ascites was said to be present but I tend to discount this after seeing the x-ray. Again, there is an elevated white count and toxic effects in the white cells. The bilirubin has now gone up and the alkaline phosphatase and lactic dehydrogenase have become even more elevated. This does not help particularly. The arterial gas studies are compatible with obesity and marked pain limiting respirations.

We have then narrowed this down to a patient who has a differential diagnosis of jaundice, enlarged liver and pain in the right upper quadrant. I think that this limits our field markedly. We could discuss the differential diagnosis of circular calcification in the right upper quadrant. Calcification in the wall of a hydatid cyst, or amoebic abscess, or calcification in the wall of a hepatic artery aneurysm or one of the branches is possible. However, these do not explain the toxic and febrile reaction. This lady had known chronic long-standing underlying gallbladder disease and I believe that she did have porcelain gallbladder (calcification in the wall of the gallbladder). I believe that she developed a liver abscess either by direct extension or through the bile passages. The abscesses may have been multiple. However, I suspect a single liver abscess. The underlying gallbladder disease, the absence of nausea and vomiting, the presence of some sort of infectious process and the sudden change in liver size are all compatible with the diagnosis. Something must have produced this rapid change. I have

no evidence of any other process except infection which could have produced this rapid enlargement of the liver. The scan showed changes in the liver which are significant and perhaps minimized in this protocol. I think that the blood gas studies certainly would go along with an abscess causing pain on respiration. I believe that the patient is too toxic for diagnosis of amoebic abscess. The calcification is below the liver and not in the liver as a hydatid cyst would be.

#### DR. ENSBERG'S DIAGNOSIS

##### 1. SINGLE OR MULTIPLE HEPATIC ABSCESES SECONDARY TO

A. Ascending Cholangitis

B. Direct extension from an infected gallbladder

†DR. LOURENS WILLIKES: Would you consider a fistula from the gallbladder to the colon or duodenum with passage of the stone and then gallstone ileus. She did have distention and they had to put down a nasogastric tube at one time.

DR. ENSBERG: I would believe that if the patient had developed a fistula to the colon or duodenum it would have drained the gallbladder and this would have made her symptoms lessen rather than getting worse.

\*DR. CURTIS FREDERICKSON: Why did this patient have transient distention?

DR. ENSBERG: I believe that this was because she was an obese, sick woman who was inactive and had severe systemic toxemia. I think that there was a paralytic element to the problem.

\*\*DR. WALTER K. SOSSEY: Did this calcification in the right upper quadrant move around at all?

DR. BARLOW: No, I did not see any mention of that in the chart.

\*\*\*DR. SHANNON TURNEY: I think that I agree with what Dr. Willikes is trying to infer. It could have been a large gallstone that could have evacuated through a fistula between the gallbladder and duodenum and caused a gallstone ileus.

DR. ENSBERG: If that is so, then I think that this protocol does not give an adequate history for gallstone ileus.

DR. ROSSING: Dorence, do you think that the diabetic glucose tolerance curve was of significance?

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\*Intern, Sioux Valley Hospital.

\*\*Intern, Sioux Valley Hospital.

\*\*\*Surgeon, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.



DR. ENSBERG: No, I think the patient was a diabetic which might predispose her to the infection as I have suggested.

DR. BARLOW: Why do you ask this question?

DR. ROSSING: A patient who has chronic cholecystitis easily may have had a silent chronic pancreatitis or the patient may have had infiltration of the pancreas by malignancy bringing about the diabetic glucose tolerance curve.

DR. BARLOW: Yes, Dr. Bell at the University of Minnesota showed a number of years ago that pancreatic carcinoma has a higher incidence in diabetic than in non-diabetic patients.

DR. ENSBERG: I think that it is important to keep in mind the temporal sequence of the jaundice which did not appear until late. Early jaundice would have been expected with carcinoma of the head of the pancreas. The progressive anemia might suggest bleeding but may have also been secondary to a chronic infection or abscess which became chronic.

\*DR. EVERETT W. SANDERSON: What about the possibility of carcinoma of the gallbladder?

DR. ENSBERG: Yes, I cannot exclude that possibility nor can I exclude the possibility of primary hepatoma of the liver which could have become calcified. However, the patient had no weight loss and had been relatively well up until the acute process. I think that this is against the diagnosis of malignancy.

\*\*DR. MICHAEL ISRAEL: Dr. Ensberg, would you comment on the advisability of operation in this case?

DR. ENSBERG: Yes, I think that any patient in whom you suspect an acute suppurative disease of the gallbladder or liver abscess does require surgery for drainage. I think this is even so for patients whom you would not consider operating on otherwise or who are too sick to operate. They require drainage of the abscess. I should also point out that I think the antibiotics in this case simply masked the suppurative process.

†DR. TOM MAYER: What was the use of the leucine amino peptidase in this case?

DR. BARLOW: I think that the use of the leucine amino peptidase is very questionable. We use it principally when there is an elevated alkaline phosphatase which can be caused either by liver disease or bone disease. In bone disease, the leucine amino peptidase is normal but in

bili-ry obstruction or other forms of liver disease the leucine amino peptidase is elevated. Some feel that you can use this test in a negative sense in that the patient probably does not have carcinoma of the pancreas if this test is normal.

DR. ENSBERG: I don't believe it.

DR. BARLOW: Well, I agree, I have never been a great advocate of this test although some people feel that it is quite useful. Dr. Nelson, you saw this patient in consultation. What were your problems with this patient?

††DR. NELSON: My preoperative diagnosis was exactly the same as Dr. Ensberg's. She was a very toxic woman.

DR. ENSBERG: I'm afraid that means she didn't have what I said (Laughter).

DR. NELSON: This woman was extremely ill and I agreed that operation was indicated. I drained the gallbladder which was full of pus and removed several stones. I did a brief exploration of the abdomen but since this lady was very sick I ended the operation quickly. The patient did have a cardiac arrest in the recovery room. She never did well after surgery and died 10 days later.

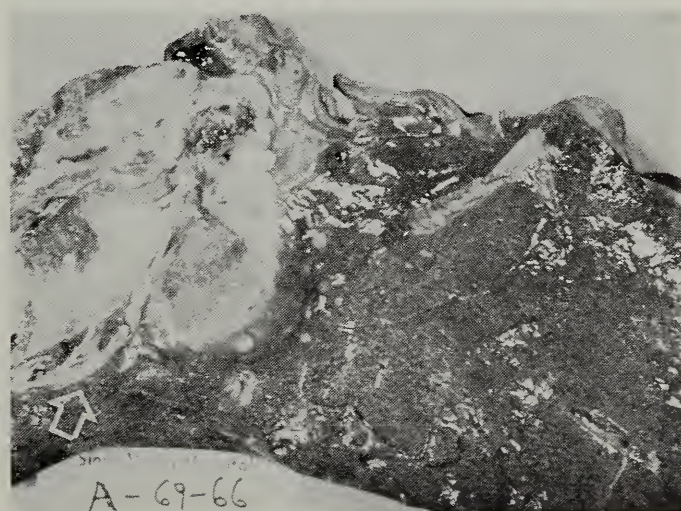
DR. ENSBERG: Was the gallbladder calcified and was the liver enlarged?

DR. NELSON: Yes, the gallbladder was calcified and the liver was enlarged but I did not find an abscess. There was a small amount of clear fluid in the abdomen.

### **PATHOLOGICAL DISCUSSION**

DR. BARLOW: At autopsy the most remarkable

**Figure III.**



Arrow points to thickened gallbladder wall. To right and above is tumor mass adjacent to gallbladder wall. A few white nodules of tumor are seen in the surrounding liver.

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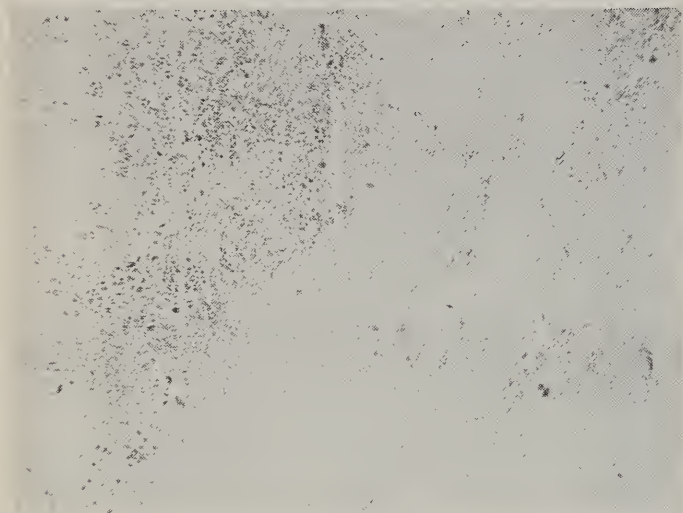
\*\*Pathologist, Sioux Valley Hospital, Associate Professor of Pathology, School of Medicine, University of South Dakota.



findings were in the liver. This is a gross photograph of the opened gallbladder with a markedly rigid calcified wall. (Fig. III)

Surrounding the gallbladder is tumor tissue which infiltrates the surrounding liver. Scattered throughout the liver are multiple small nodules of tumor. This section of the wall of the gallbladder shows the dense hyalinization and

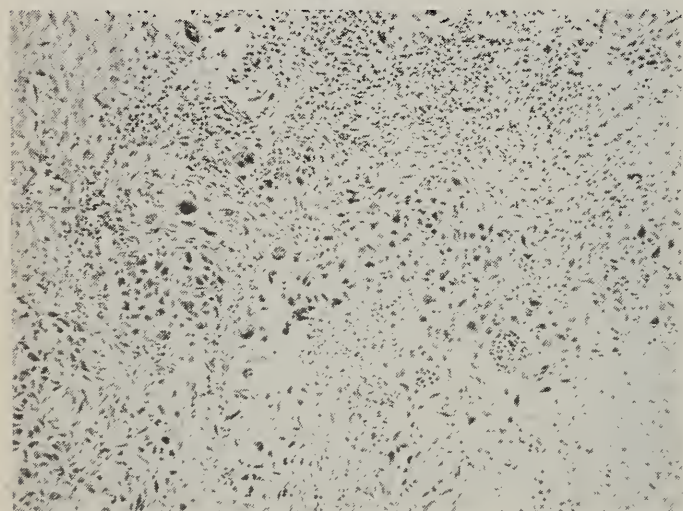
Figure IV.



To right is hyalinized gallbladder wall and to left is tumor. (40X)

the tumor. (Fig. IV) Higher power shows the tumor is very pleomorphic and has abundant necrosis. (Fig. V)

Figure V.



Pleomorphic carcinoma in wall of gallbladder. (100X)

This slide shows the calcification in the wall of the gallbladder which was shown very nicely on x-ray. (Fig. VI) The regional lymph nodes were involved with tumor. The patient actually died of bilateral pulmonary thromboembolism. The patient also had an infarction of the spleen which was attributed to terminal shock.

#### FINAL PATHOLOGIC DIAGNOSIS

1. POORLY DIFFERENTIATED ADENOCARCINOMA OF THE GALLBLADDER WITH

EXTENSION INTO LIVER AND METASTASES TO REGIONAL LYMPH NODES

2. PULMONARY THROMBOEMBOLI, MASSIVE
3. INFARCTION OF SPLEEN, ACUTE
4. CORONARY HEART DISEASE, MODERATE
5. ATHEROSCLEROSIS OF AORTA, MODERATE
6. NEPHROSCLEROSIS, BENIGN, MODERATE

Figure VI.



Hyalinized wall of gallbladder. Black is calcification which is artifactually distorted by microtome cut.

\*DR. R. G. OLSON: I think it is wise to point out that this case was handled in the best possible manner. Carcinoma of the gallbladder could not have been diagnosed and the patient had all the signs and symptoms of suppuration. An operation was certainly indicated in this case.

DR. SHANNON TURNEY: I certainly agree. However, some people have been doing hepatic lobectomies for carcinoma of the gallbladder lately although I would not say that this patient is a candidate.

DR. BARLOW: I have not seen any large series of cases with hepatic lobectomy. I am rather skeptical as the tumor often infiltrates widely in the region of the gallbladder. The usual case of carcinoma of the gallbladder does not survive very long. The five year survival is about 1% and those patients that do survive are those fortunate patients with incidental carcinoma of the gallbladder removed at surgery.

DR. ENSBERG: Do you agree that the patient's symptoms were more due to the pus in the gallbladder than the tumor?

DR. BARLOW: Yes, I think that the patient's main problems were fever of unknown origin

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which was probably due to infection of the gallbladder. Necrosis in the tumor itself may explain some of the fever. In general, both the necrotic tumor and the infection of the gallbladder could have explained the high white count which was a leukemoid reaction. The presence of toxic granulation in the neutrophils and the high alkaline phosphatase ruled out chronic myelogenous leukemia which was considered. In that disease the leukocyte alkaline phosphatase should have been low and I would have expected to have a palpable spleen. I think that the high uric acid may have been explained by the marked proliferation in the marrow and the necrosis of the tumor.

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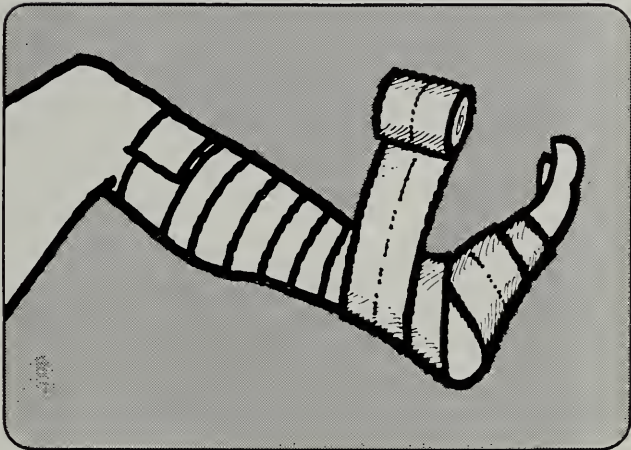
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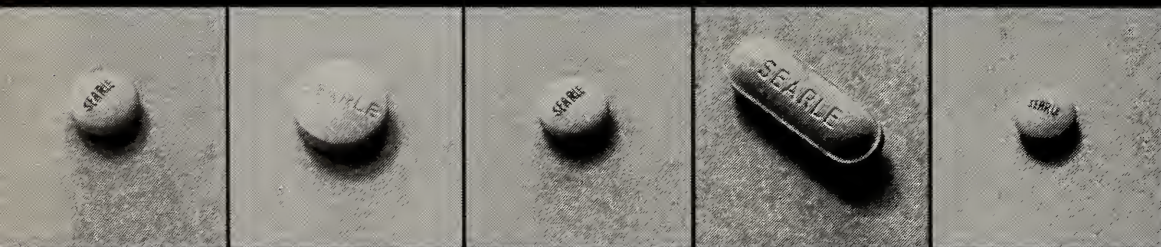
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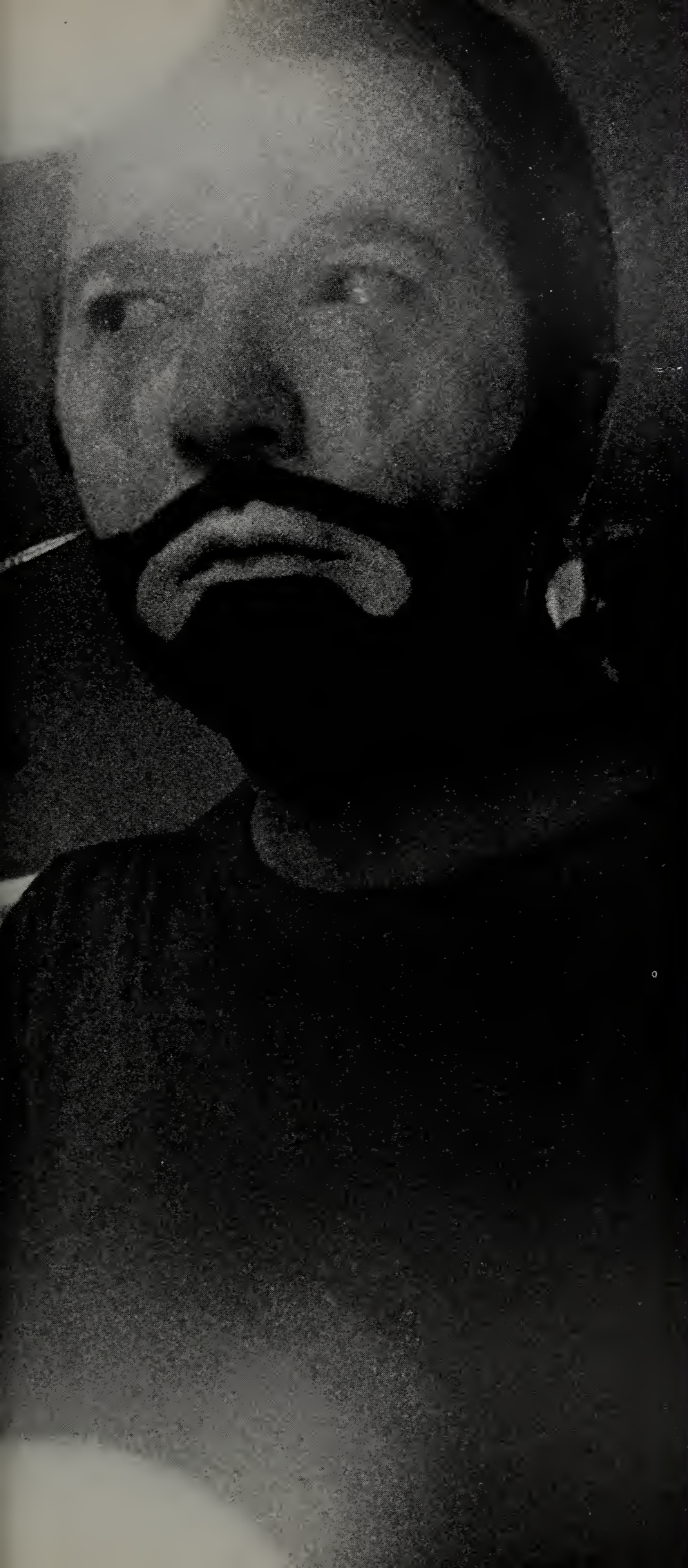
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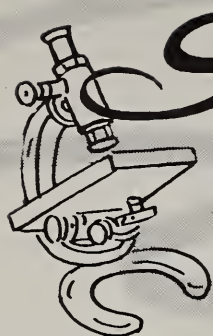
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# Scientific P A P E R

## TRICHOTILLOMANIA

Stuart B. Simon, M.D.\*

Norman, Okla. 73069

### A CASE REPORT

Most practitioners of medicine, who have been in practice for several years or longer, especially those involved in dermatology, psychiatry, general practice, pediatrics, and internal medicine have seen a case of trichotillomania or hair pulling with resulting baldness. This case is presented as one of interest for several reasons. It is of interest purely for those familiar with such cases, it is of interest to the referring physician, to the psychiatrist, and it also presents complexity to the psychiatrist as well. In addition there is considerable variance as to the number of reported cases, the incidences, the sex, etc. It is hoped that this case may also present some of the difficulties a consulting psychiatrist encounters when involved in therapy with such cases.

### IDENTIFICATION:

C. M. was a 10 year old male who was enrolled in the fifth grade this fall. He is the only child born to Mr. and Mrs. M. The father is a salesman for a professional service. The family is protestant in religion. They were referred by a doctor at the medical center. C. M. states he pulls his hair when he thinks about his problems. This is apt to happen when he tries to perform a task and doesn't get it right. Everything has to be perfect. His parents say his hair pulling began three months ago and has persisted since then. The problem has somewhat diminished for the last two months. At that time his folks insisted that he have a burr haircut. The parents say they don't know whether his hair

pulling is a habit or emotional, and this prompted them to seek psychiatric help.

### BACKGROUND INFORMATION:

Mrs. M. is in her 40's and has been married to Mr. M. for about 20 years. Mr. M. is presently 45 years of age. No unusual hereditary factors are known in either of their families. Mr. M. was born in one of the midwest states, as was Mrs. M. She is the youngest sibling in her family composed of four sisters and five brothers. The family engaged in farming for a living. She left home at the age of 16 saying she left because her brother took over the farm during hard times. She had completed her high school training with no difficulty, and was able to do her schoolwork with average or better grades.

Mr. M. has one brother and one sister. He was the middle sibling. When he was three years old his mother died and his father remarried. He did not have any difficulty with parental figures. He completed college at the state university, securing enough credits to get a degree but he lacked some of the required courses to secure his degree. He worked for an automobile company as a salesman for a few years, then entered his present occupation.

The family does little socializing. Mr. and Mrs. M. play bridge only on occasion. They do attend church regularly. Mr. M. states ever since he began working for the present company he has been out of the home except on weekends. He and C. M. do very little together, sometimes doing a little fishing. There are no peers in the neighborhood block for the boy to relate to, most of the boys are in the older adolescent age group.

Mrs. M. was 23 when she married Mr. M. He was 27. C. M. was the only child because the mother had pelvic complications. His birth-

(Continued on Page 39)

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University of Oklahoma Medical Center  
Department of Child Psychiatry



(Continued from Page 36)

weight was in excess of five pounds, he was in an incubator for one week, but no transfusions or extra laboratory procedures were required or performed. His developmental history otherwise is essentially normal.

He has done well in school, making A's and B's. He particularly enjoys spelling and English. He has rarely presented a disciplinary problem and the mother, who is the strictest of the two parents as far as discipline is concerned, has stated no physical punishment has been needed for the boy since he was six.

Three months ago C. M. became ill with a high fever. At that time he developed a congested lung. He was not hospitalized for this illness. He had a cow lick on the back part of his head and at this time he began pulling the hair and gradually pulled more over the left occipital area until he got the burr haircut two months ago. Most of the hair pulling was on the occipital region until two weeks ago. At that time he was watching a movie where Tarzan was being pursued by an army of ants and he began pulling the hair on the side of the head as well. No sleep difficulties have been present and he obediently retires at night. No hair pulling occurs at night. The parents did have a requirement on night retirement until school was out and then this was lifted, however he continued to pull his hair during the day. The parents feel he has trouble controlling his temper stating that he has had this difficulty since infancy. A week ago he was playing a game and drove the ball into the ground with a bat. This occurred when he missed the ball, swinging the bat.

#### **PSYCHIATRIC INTERVIEW:**

C. M. is a well built boy who appears slightly obese and large for his age. His physical stature approximates his father's body build. His dress and grooming are neat and his appearance appealing. Movements of the hand are a little more feminine than masculine. He appears free of any hypokinetic or hyperkinetic movements. Coordination and fine movements such as observed during drawing were normal. His posture is slightly stooped. Gait and balance are normal. He has a slight lisp and his language is selective for his chronological age. Vocabulary and general knowledge is appropriate to his age and schooling. Vocal inflection is in the normal range. Attention span and ability to concentrate are good. Sensory processes are normal. No delusions or hallucinations are noted. Memory for recent and remote events is good. His intelligence is above average. His thought processes

are orderly, coherent, relevant and goal directed. His thoughts flow freely without any halting or blocking. Reality testing is excellent. Dominant thought content or preoccupation such as those expressed in dream content reveal a strong preoccupation with aggression. His affect is appropriate to his preoccupation and thought content. He is meticulous and not disorganized. In relationship to peers C. M. appears to be a follower rather than a leader as exemplified by the fact that he associates with older boys. The relationship to his parents is more directly towards his mother than father at this time. His self image is derogatory. His sexual identification is chiefly with his father or reflects at least identification with his father. However, his feminine mannerisms show that there is also some identification with the mother. His super-ego is reasonable and effective. C. M. has only superficial insight into difficulty in regard to his hair pulling. He does think it is emotional however.

#### **DYNAMIC FORMULATION:**

C. M. has had difficulty in the preoedipal phases of development exemplified by his obesity, his being starved for affection and his need to satisfy his emotional hunger. This was done by his excessive food intake. Rather harsh and effective early toilet training has led to a retentive mode of aggression, in that the trichotillomania shows that C. M. is turning this aggression against himself. Suppression of aggression also makes it harder for him to assert himself. It also makes it hard to make a strong identification with his father. A harsh primitive super-ego maintains the state of affairs, and also leads to an almost masochistic perfectionism and a strong need to inform and to please his parents. At times the underlying aggression is sorely tempted and if he on an impulse does not let out the aggression, he makes himself feel much guilt. The hair pulling began when C. M.'s defenses were weakened by illness at a time when he was shaky anyway due to conflict with the teacher at school. The hair pulling appears to have a punitive meaning rather than a sexual one. C. M.'s mother is quite moralistic with a rather rigid super-ego and strong competitive feelings with conflicts between her and her husband, and these are suppressed and not allowed into the open. The mother also harbors unconscious aggression and wishes toward C. M. Therefore when he is sick physically or emotionally she becomes guilty and seeks help for him. When he appears more well her underlying



aggression defeats her motivation to seek help for the boy until he becomes sick again. Because of the strength of these underlying feelings she is strongly tied to C. M. and his difficulties, so that it may be hard for her to allow the boy to change. C.M.'s father also contributes to this situation by his sustained absence from the home during the week and his lack of togetherness with C. M. when he is home on weekends. Thus he gives the boy little support and also provides a rather submissive model for his son. C. M. in turn sees his masculinity as constantly being overwhelmed by females, and despairs of ever being able to extract himself from the situation. However he has not given up altogether as manifested by his fierce competitiveness in games.

#### DIAGNOSIS:

1. APA Diagnosis: 306.9 (Special symptoms disorder Trichotillomania)
2. GAP Classification: Personality disorder, Compulsive personality

#### PROGNOSIS:

With treatment the prognosis is likely to be fairly good. Without treatment it is likely that C. M. will become increasingly miserable and find it hard to make an adequate adult male adjustment.

#### DISCUSSION:

According to reports obtained from the literature trichotillomania in children is not supposed to be a common occurrence. In the writer's opinion this is not true. I can recall two cases while in general practice in South Dakota. Since entering child psychiatry I have at this time an additional case in therapy. Among the psychotic of all age levels there is a higher incidence as well. I can recall two cases in adult females while I was in residency in Central State Hospital in Norman, Oklahoma.

Psychodynamically, conflict between the original love object and the child appears to be the most significant factor. Barahal when reviewing the literature explored the role of hair in mythology and customs and found that it exemplified a symbol of strengths of beauty in the castration complex. Berg also interpreted hair as a phallic symbol.

Sperling thought it represented a bi-sexual conflict and was an expression of giving up the feminine part of the self.

According to most authors it appears most frequently among females. This has also been true in cases seen by the writer.

The higher incidence in females may thus be

(Continued on Page 43)

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(Continued from Page 40)

explained on Freudian principles of psychosexual development. On this basis the female child is in conflict with the love object, the mother. This is a more smoldering conflict in females than in males, for example over penis envy. This is supported further by evidence of reported cases. It is not common in children under 2 years of age. In addition, it occurs in a number of psychotic disorders, for example, obsessive compulsive neurosis, schizophrenia, habitual manipulation of the body (habit pattern).

In the case reported above the symptom may also be reviewed as a relatively isolated one. This according to reports in the literature is not common. Usually other symptoms such as nail biting, scratching, etc. are present.

In the case presented it represents inward directed aggression rather than a sexual effect, it is more punitive than sexual and in an obsessive compulsive pattern is used defensively to control defiance, rage, guilt, and fear.

Physical illness has reportedly often preceded trichotillomania. During the illness the youngster is again dependent upon the mother, or the original love object and emotional conflict thusly is reactivated during periods of stress.

#### TREATMENT:

The treatment depends on the psychiatrist's training. This will determine his approach to the problem for example, his goals in the therapy. The goal may be symptom removal, or analytic or behavioral modification, etc. and in some instances chemotherapy. In children with trichotillomania best results are obtained with parental involvement regardless of the psychiatrist's training.

The type of therapy also is dependent on availability of the therapist and in psychoanalytic modalities the dynamics, genetic, structural, economic, and adaptive assessment of the individual seeking therapy. Thus one may have to settle for symptom removal only, or chemotherapy rather than behavioral modification, transactual analysis or preferably in the author's opinion analytic therapy.

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#### KISS OF DEATH

Kissing can cause tooth decay, according to a report recently presented by Dr. Maury Massler of the University of Illinois Medical Center. Dr. Massler stressed the importance of greater public awareness that tooth decay is an infection and that caries are as easily passed from adult to adult as from parent to child. While sugar is a prime contributor to tooth decay, Dr. Massler told the Greater New York Dental Meeting, efforts to curb "sweet tooth" in children generally fail because punishment is the wrong way to handle the problem. Removing sugar from the diet by substitution is the best approach, he concluded.

#### AMA CHALLENGES HEALTH STATISTICS

The American Medical Association's president challenged the conclusions often drawn from international vital statistics which seem to indicate the U. S. lags behind a dozen other countries in quality of health care. Record-keeping criteria vary so widely that even among the highly developed nations there is no real basis for comparison, Walter C. Bornemeier, M.D., said. "I do not imply that health care in America is perfect. We know there is room for improvement and the American Medical Association, together with many other interested organizations and governmental units, is working constantly to improve care," he said.

#### GROUP-SOLO PRACTICE STUDY

Group and solo practice are being compared as part of a federally-sponsored study of medical costs and services at the University of Wisconsin. The \$210,000 HEW grant will be used by the newly-established Health Economics Research Center at the University. Other research projects to be scheduled include definition and measurement of physician productivity, providing medical care for the poor, a medical care cost index, and the effect of allied health personnel on the prices paid by consumers. Prof. Ralph L. Andreano, director of the center, said, "We're putting together modern economic research models for the medical sector, something that has been neglected for a long time."



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# MEDICAL ASSOCIATION

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News Notes • Changes • Births • News

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The South Dakota Heart Association has initiated a project using a computerized machine called "Phono Cardioscan" to detect heart murmurs in children. The project which has been tested on over 800 children is a free community service supported by the Heart Fund. Physicians in each community are contacted by the Heart Association before the program is presented to school officials. The test is administered and supervised by trained personnel under the supervision of the Heart Association and local health authorities. Physicians interested in this program for their communities should contact the South Dakota Heart Association, 107 First Federal Building, Watertown, South Dakota.

\* \* \*

PATIENT CARE magazine quoted **C. A. Johnson, M.D., Lemmon**, on his ideas for the goals of health care and the essentials to achieve these goals. He stated, "Maximum living time free of mental, emotional and physical disability. The essentials to accomplish this goal: data, detection, deduction, development, distribution and delivery. If I were to limit the essentials to three, as you suggest, I would choose data, deduction and delivery."

**C. B. McVay, M.D., Yankton**, served as moderator for a papers' session of the three-day Sectional Meeting of the American College of Surgeons held in Phoenix.

\* \* \*

More than 100 physicians and nurses attended a seminar at St. John's McNamara Nursing School in Rapid City on the treatment of a patient who has had a heart attack. Among the speakers was **Warren Jones, M.D., Sioux Falls**.

\* \* \*

Recent action by the Board of Trustees, Mount Marty College, Yankton, authorized the initiation of a degree program in anesthesia effective September 1971. The Board also

**N. E. Wessman, M.D., Sioux Falls**, died suddenly of an apparent heart attack at age 55. Dr. Wessman graduated from Temple University and following his internship and residency he entered the Navy. After World War II he established his practice in Sioux Falls and had been there since. Dr. Wessman was past president of the Seventh District Medical Society, served as city health officer for 23 years, and was a past potentate of the El Riad Shrine. He is survived by his widow, a son James, and a daughter, Mrs. Ronald List, Tucson, Arizona.

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approved a bachelor's degree program in Inhalation Therapy. Both degree programs will be conducted under the auspices of a newly-formed department of respiratory science. Ten faculty members, six holding doctorates, will serve both majors. Sr. Harriet Gobel, Assistant to the Vice President for Academic Affairs, will serve as the temporary head of the new department, and inquiries about the new programs should be directed to her. The college will seek national accreditation for both programs during the summer months.



**Roscoe E. Dean, M.D.**, Wessington Springs, attended a five-day conference on family practice at the University of California Irvine College of Medicine in Newport Beach, California.

\* \* \*

**H. Streeter Shining, M.D.**, Rapid City, spoke on the "Medical Aspects of Coronary Care in the Community Hos-

pital" at a joint meeting of physicians and nurses at the Rosebud PHS Indian Hospital.

\* \* \*

A symposium on Myocardial Infarction and Ischemic Heart Disease was held at the University of South Dakota School of Medicine. Speakers included **V. K. Cutshall, M.D.**, Sioux Falls; **Robert E. Botti, M.D.**, Western Reserve School

of Medicine in Cleveland, Ohio; **C. S. Roberts, M.D.**, Brookings; **W. O. Read, Ph.D.**, USD School of Medicine; and **Gordon S. Paulson, M.D.**, Rapid City.

\* \* \*

The Board of Directors of the Lake Region Mental Health Center elected **C. J. Clark, M.D.**, Watertown, as its president for 1971.

## ADA TO STUDY NATIONAL HEALTH PROGRAMS

The American Dental Association House of Delegates recently instructed its Board to call for a review of all ADA policy concerning national health programs. A broadly-based dental health task force will be appointed "to define the Association's position with respect to participation of the dental profession in national programs concerned in the delivery of health care to the public."

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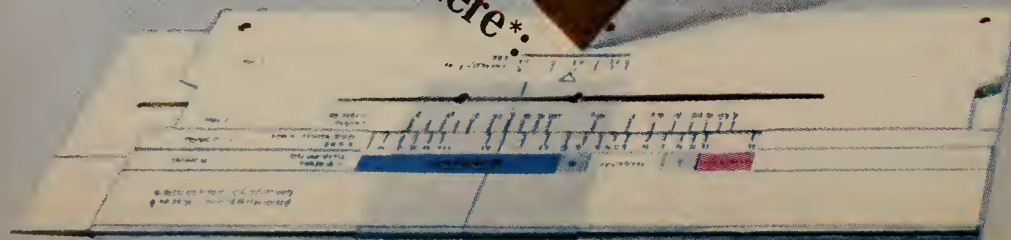
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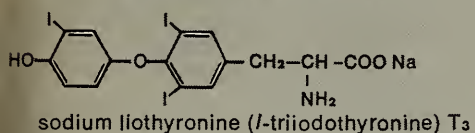
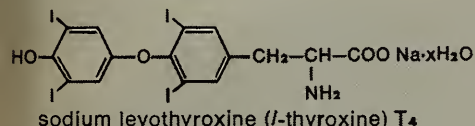
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\*Clark, F., and Horn, D. B.: Assessment of thyroid function by the combined use of the serum protein-bound iodine and resin uptake of  $^{131}I$ -triiodothyronine, J. Clin. Endocrinol. 25:39 (Jan.) 1965.

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In contrast with the individual synthetic, metabolically active hormones, Euthroid will usually produce normal results for PBI,  $T_3$ , and other thyroid function tests—consistent with clinical progress—when persons with endogenous thyroid deficiencies are made euthyroid. Sodium liothyronine ( $T_3$ ) acts more rapidly and for a shorter period of time than preparations of biological origin. Customarily, its use as a single agent produces inappropriately decreased PBI values. Sodium levothyroxine ( $T_4$ ), on the other hand, is more tightly bound by plasma protein fractions and is somewhat slower acting than sodium liothyronine ( $T_3$ ); its use as a single agent tends to produce inappropriately elevated PBI values. Euthroid, with its unvarying 4:1 ratio of  $T_4/T_3$ , permits interpretation of appropriate laboratory tests consistent with the total clinical status of the patient.

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namely:

- 1) Hypothyroidism, including cretinism and myxedema.
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- 4) Prevention of goiter in hyperthyroid patients undergoing treatment with thiouracil derivatives.
- 5) Usage in patients who may manifest intolerance to thyroid products of animal origin.

**Contraindications:** Acute myocardial infarction, adrenal insufficiency, hypersensitivity to any component of this drug.

**Warnings:** Liotrix should not be used in the presence of cardiovascular disease unless thyroid replacement therapy is clearly indicated. If the latter exists, low doses should be instituted (Euthroid-1/2 or Euthroid-1) and increased by the same amount in increments at 2-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out and adrenal deficiency due to hypopituitarism corrected before liotrix therapy is started.

If hypothyroidism and adrenal insufficiency exist concomitantly, cortisone or similar steroids should be given at dose levels sufficient to correct the adrenal insufficiency before attempting replacement therapy with thyroid hormones.

Likewise, the possibility of alterations in the prothrombin time must be considered and closely monitored in patients on anticoagulant therapy.

Myxedematous patients are very sensitive to thyroid hormones, and dosage should be started at a very low level and increased gradually.

**Precautions:** Hypothyroid patients are especially sensitive to thyroid preparations, and those with severe hypothyroidism may be unusually so.

Initiation of thyroid replacement therapy in patients with diabetes must be carefully monitored because of potential fluctuation in daily insulin or oral hypoglycemic requirements.

As with all thyroid preparations, this drug will alter the results of thyroid function tests.

**Adverse Reactions:** Overdosage or too rapid increase in dosage of thyroid preparations can produce signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

**Dosage and Administration:** Initial dosage should be low and gradually increased at 2-week intervals until the desired clinical response is obtained.

Laboratory criteria of euthyroidism include a PBI of 3.5 to 8 mcg;  $T_3$ ,  $T_4$ , and BEI tests are useful.

For most patients, a single daily dose of Euthroid-1, -2, or -3 will maintain euthyroidism. Transfer of a patient from a maintenance dose of another thyroid preparation to Euthroid can usually be effected smoothly. See table for initiating therapy or converting from other thyroid preparations.

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Euthroid-1					
light brown	( 60/15)	1 grain	.1 mg	25.0 mcg	
Euthroid-2					
violet	(120/30)	2 grains	.2 mg	50.0 mcg	
Euthroid-3					
gray	(180/45)	3 grains	.3 mg	75.0 mcg	
$*T_4$ =sodium levothyroxine (l-thyroxine)		$**T_3$ =sodium liothyronine (l-triiodothyronine)			

Dosage for cretinism or severe hypothyroidism in children is the same as for adults with myxedema. Eventual maintenance dosage in the growing child may be higher than in the adult.

**Overdosage: Symptoms**—Headache, instability, nervousness, sweating, tachycardia, and unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm; chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

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# 20 Years Ago ... IN THE JOURNAL

*TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF  
MEDICINE AND PHARMACY — MARCH, 1951*

(Excerpts from the President's Page)

**L. J. Pankow, M.D.**

For the first time in my memory the South Dakota State Medical Association can relax after a Legislative Session and not have to lick its wounds. Every Bill which was introduced at the request and with the approval of the Council was passed. Most of the Bills which the Council endorsed were enacted into legislation, and most of those to which we objected, were defeated. This is a most enviable record for which no one officer or member of the Association may take exceptional personal credit, for it was done by all Officers and Members working together for the best interests of our Profession, our Association and for the Public Good.

\* \* \*

## **New Insurance Endorsements**

The South Dakota Injury-Illness Expense Plan, written by one insurance company since 1946, has recently had its face lifted. The original plan, which had to be written exactly as agreed upon by the Association and the insurance company was modified by action of the House of Delegates last year to provide for approval of policies including "similar benefits and premium charges."

The Paul Revere Life Insurance Company has met the requirements for approval and is now selling a non-cancellable policy that carries the endorsement of the South Dakota State Medical Association.

As before, it is well for all members of the Association to push the sale of the two approved policies. Only by providing adequate protection against the costs of medical care can the medical profession expect to hold the line against socialistic medicine.

## **PIERRE DISTRICT REVIEWS LEGISLATION**

The Pierre District Medical Society met at the Falcon Cafe in Pierre and at the Pierre Clinic to eat and to hear a report on State Legislation by Association executive secretary John C. Foster.

The meeting was concluded with a business session. Dr. I. R. Salladay presided at the meeting.

\* \* \*

## **YANKTON DISTRICT HEARS W. R. ANDERSON**

Dr. Warren R. Anderson, Sioux Falls pediatrician was the speaker at the regular meeting of the Yankton District Medical Society held in Vermillion on March 15. The subject of Dr. Anderson's paper was "Meningitis."

The members of the Auxiliary met with the Society members for dinner at the Congregational Church and then held a separate business meeting.

\* \* \*

## **MEDICAL SCHOOL RECEIVES U. S. GRANT**

A \$5,000 grant to the Medical School at the University of South Dakota from the U. S. Public Health service will become effective May 1, according to Dr. H. N. Carlisle, chairman of the department of Microbiology at the University.

According to Dr. Carlisle, "the funds will be used to support a research project concerning the application of a recently developed diagnostic technique to the detection of brucellosis (undulant fever) and other diseases of man and animals."

The grant was obtained by application to the United States Public Health Service and is being made to the University Medical School, with Dr. Carlisle the chief investigator.







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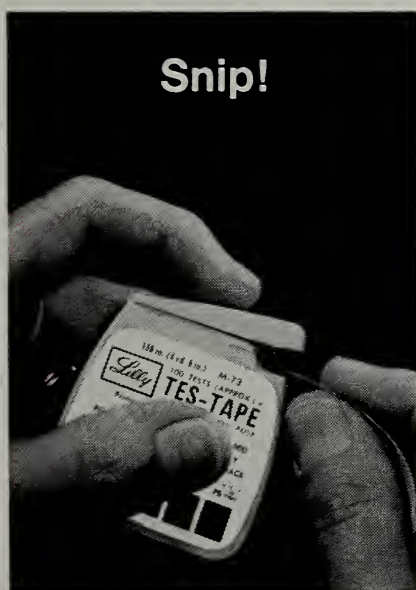
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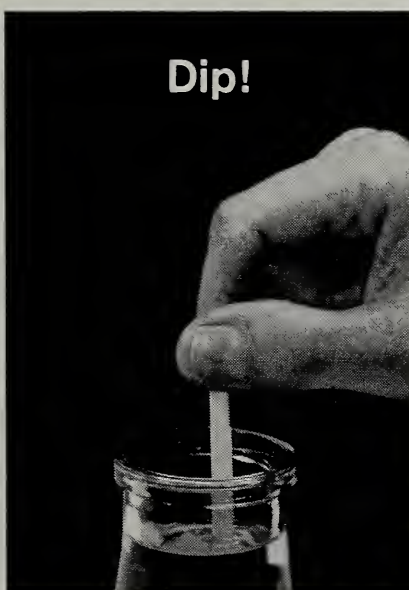
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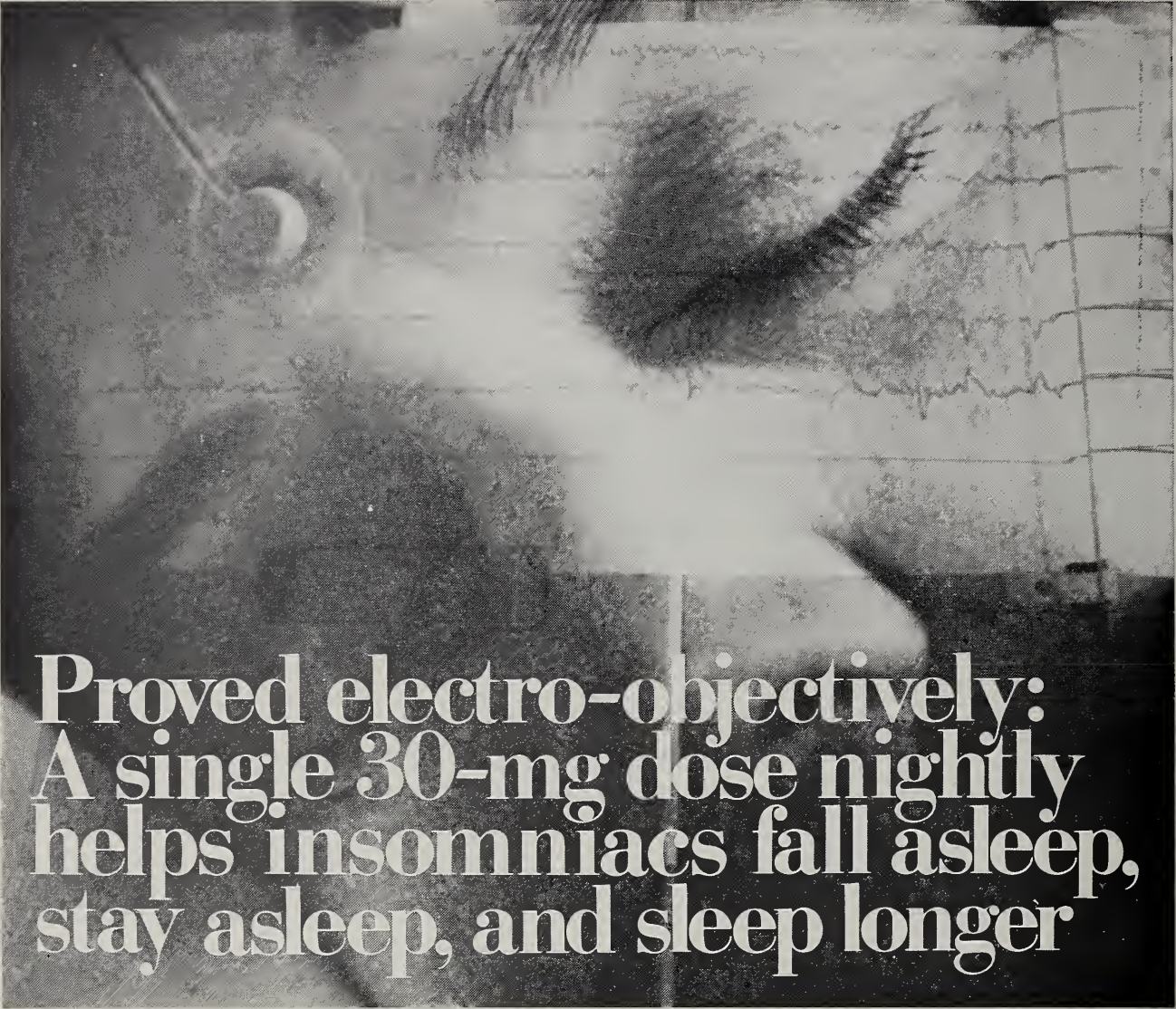
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ANNUAL MEETING — SOUTH DAKOTA STATE MEDICAL ASSOCIATION  
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# Proved electro-objectively: A single 30-mg dose nightly helps insomniacs fall asleep, stay asleep, and sleep longer

Controlled studies of 23 insomniac and 13 normal subjects treated with Dalmane (flurazepam HCl) in five sleep laboratories generated over 4000 hours of electroencephalographic, electro-oculographic and electromyographic tracings. These studies revealed that Dalmane 30 mg nightly usually induces sleep in 22 minutes and provides seven to eight hours of sleep.<sup>1,2,3</sup>

Moreover, Dalmane 30 mg was found to be useful in all common types of insomnia in which it was studied. Of drugs studied in a sleep laboratory,<sup>1</sup> Dalmane 30 mg was the only one that consistently reduced sleep induction time and maintained sleep nightly for 14 consecutive nights of use.

---

## Confirmed clinically

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Fifty-three controlled studies using a paired-night, double-blind crossover design have evaluated Dalmane clinically. In the majority of these, Dalmane (flurazepam HCl) significantly reduced sleep induction time and increased sleep duration. Dalmane and a placebo were alternated on successive nights in 2010 insomniacs, 1706 of whom were studied for a single night-pair, and the remainder for as many as fifteen paired-nights. A patient preference for Dalmane was apparent in the paired-night studies.

Dalmane was also preferred to certain hypnotics in two separate preference studies. In each of two double-blind studies, Dalmane 30 mg retained effectiveness for the total period of seven consecutive treatment nights, according to subjective/objective evaluations.



In summary, Dalmane is useful in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening. It can be used effectively in patients with recurring insomnia or poor sleeping habits, and in acute or chronic medical situations requiring restful sleep.

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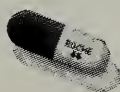
### Dalmane (flurazepam HCl) is generally well tolerated

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In most instances in which adverse effects with Dalmane were reported, they were mild, infrequent and seldom required discontinuation of the drug. Dizziness, drowsiness, lightheadedness and the like were the side effects most frequently noted, particularly in elderly or debilitated patients.<sup>3</sup> Instances of hepatic dysfunction, paradoxical reactions (excitement) and hypotension are rare with Dalmane, and morning hang-over is relatively infrequent. In studies to date the effectiveness of Dalmane for recommended periods of use is maintained without need to increase dosage.

**References:** 1. Kales, A., et al.: "Effectiveness of Sleep Medications: All-Night EEG Studies of Hypnotic Drugs," in Proc. 7th Internat. Cong. Electroencephal. and Clin. Neurophysiol., San Diego, Calif., Sept. 13-19, 1969. 2. Kales, A., et al.: "Psychophysiological and Biochemical Changes Following Use and Withdrawal of Hypnotics," in Kales, A. (ed): *Sleep: Physiology and Pathology*, Phila., Lippincott, 1969, p. 331. 3. Data on file, Medical Department, Hoffmann-La Roche Inc.

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**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.



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# The South Dakota Journal of Medicine



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## CONTENTS

Volume XXIV

May 1971

Number 5

Sex Education and Family Planning Advice by South Dakota Doctors I. — Sex Education . . . . .	5
Brooks Ranney, M.D.	
Single Stage Repair of a Median Cleft Lip in an Infant with Premaxillary Agenesis . . . . .	15
John W. Beasley, M.D.; J. B. Gregg, M.D.	
Clinicopathological Conference . . . . .	24
President's Page . . . . .	37
Editorial: Res Ipse Loquitur — The Matter Speaks for Itself . . . . .	40
J. B. Gregg, M.D.	
This Is Your Medical Association . . . . .	44





# Scientific

## PAPER

### SEX EDUCATION AND FAMILY PLANNING ADVICE BY SOUTH DAKOTA DOCTORS

#### I. Sex Education

Brooks Ranney, M.D.\*

#### Introduction:

For many centuries a doctor was a learned man who was also a teacher. Only during recent centuries has the term, doctor, implied a person who is engaged in the science and arts of medical practice. Most modern doctors of medicine are both practitioners and teachers of patients. This dual role of the physician is most noticeable in the various fields of preventive medicine. It is particularly relevant to the twin subjects of sex education and family planning advice and counsel.

Because South Dakota has few large centers of population, and almost no government-supported clinics (excepting the Indian Hospitals), most patients, of all economic strata, seek and receive medical care (including family planning advice and counsel) from their personal physicians. Since government-supported clinics are rare in South Dakota, and little statistical information is sought from private physicians, desk-shackled statisticians tend logically, but erroneously, to deduce that little or no family planning advice and counsel is available to patients in this state.

Similarly, in South Dakota, educational courses concerning the subject of sex have evolved independently in each local area, tending to depend upon local physicians, who have been willing to volunteer their time, knowledge, and understanding of the subject, and upon teachers, ministers, lawyers, and parents. Since no statewide agency is accumulating statistics

concerning sex education in South Dakota, it is, again, erroneously assumed by some that no such educational effort exists within the state.

In order to garner timely and accurate information, a "Questionnaire Concerning Family Planning Advice and Sex Education" was sent to each physician in South Dakota during 1970. The returns have been studied and tabulated, and will be reported in two articles. This report concerns sex education in South Dakota. The second article will report concerning family planning advice and counsel by South Dakota physicians.

Questionnaires were sent to each doctor and osteopath listed in the directory of the State Medical Association; 524 questionnaires were mailed; 235 were returned (44.8%) (See Table I).

Table I

Doctors Who Returned Questionnaires Concerning Sex Education and Family Planning

Type of Practice	No. of Doctors Listed in the State Medical Directory	No. of Doctors Returning Questionnaires	Percent of Questionnaires Returned
Obstetrician-Gynecologist	15	14	93.3
Generalist-Ob-Gyn	18	11	61.1
Pediatrician	20	12	60.0
Surgeon	46	21	45.6
Generalist—Surg.	36	15	41.7
Internist	37	15	40.5
Generalist	210	82	39.0
Osteopath	36	12	33.3
Other Specialists*	126	53	42.0
Totals	524	235	44.8

\*Urologists—5; Orthopedists—5; Ophthalmologists—6; Otolaryngologists—2; Dermatologists—3; Neurologists & Neurosurgeons—3; Psychiatrists—7; Pathologists—8; Radiologists—12; Anesthesiologists—2.

The percentages tabulated in the right column  
(Continued on Page 7)

\*Chairman, Dept. of Obstetrics and Gynecology, U. of South Dakota School of Medicine; 400 Park, Yankton, South Dakota.



Precision is a natural goal when you prescribe thyroid replacement therapy.

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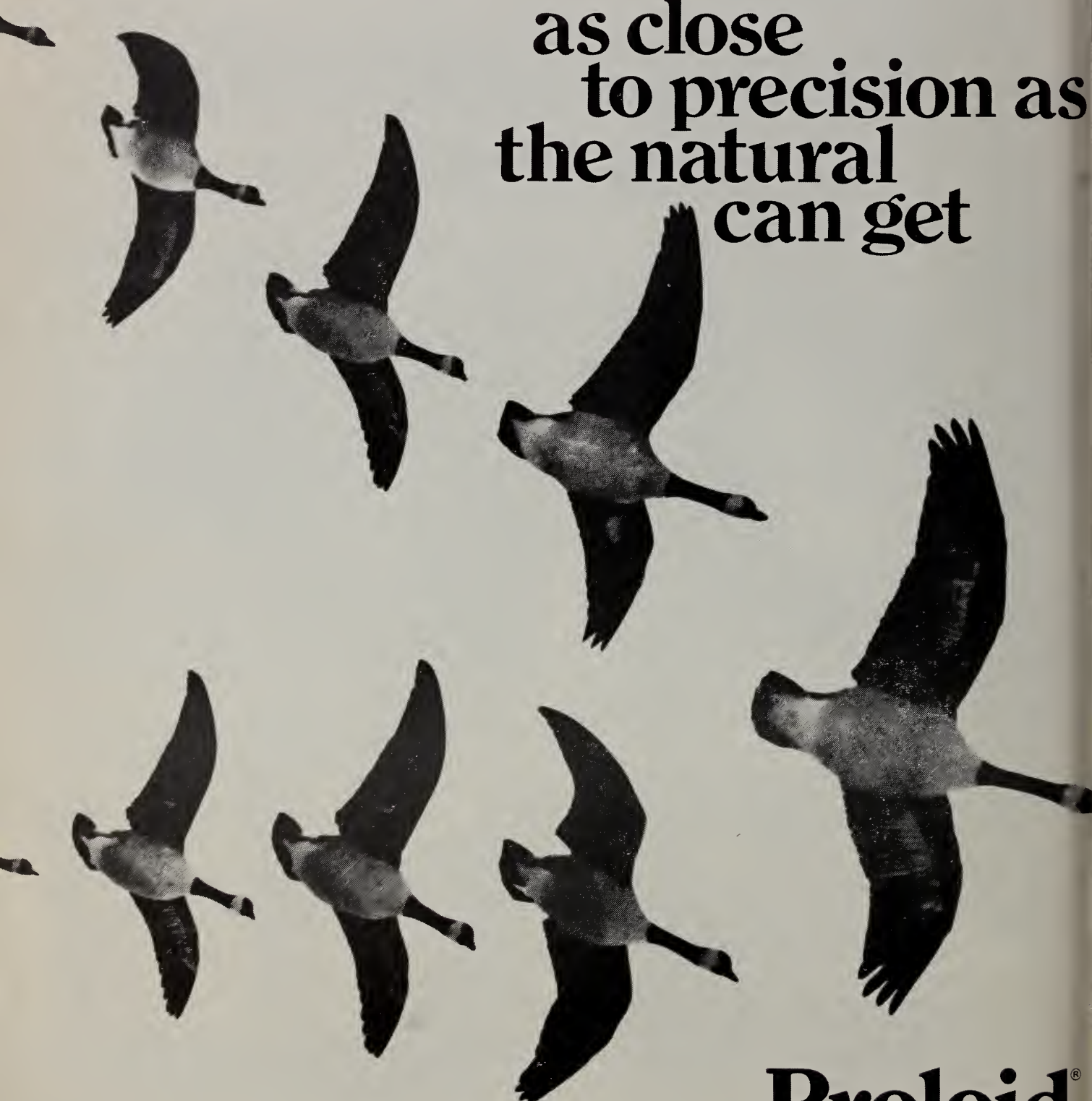
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Proloid (thyroglobulin) is stable when stored at usual room temperature.

**Indications:** Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in non-emergency situations, in an attempt to reduce the size of such goiters.

**Contraindication:** Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

**Warnings:** Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid, and dosage should be started at a very low level and increased gradually.

**Precaution:** As with all thyroid preparations this drug will alter results of thyroid function tests.

**Adverse Reactions:** Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

**Dosage and Administration:** Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR,  $T_3$   $^{131}$ I resin sponge uptake,  $T_3$   $^{131}$ I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of  $T_4$  and  $T_3$  is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

**Instructions for Use:** The following conversion table lists the approximate equivalents of other thyroid preparations to Proloid (thyroglobulin) when changing medication from desiccated thyroid,  $T_4$  (sodium levothyroxine),  $T_3$  (sodium liothyronine), or  $T_4/T_3$  (liotrix).

Dose of Proloid (thyroglobulin)	Dose of desiccated thyroid	Dose of $T_4$ (sodium levothyroxine)	Dose of $T_3$ (sodium liothyronine)	Dose of liotrix ( $T_4/T_3$ )
1 grain	1 grain	0.1 mg	25 mcg	#1 (60 mcg/15 mcg)
2 grains	2 grains	0.2 mg	50 mcg	#2 (120 mcg/30 mcg)
3 grains	3 grains	0.3 mg	75 mcg	#3 (180 mcg/45 mcg)
4 grains	4 grains	0.4 mg	100 mcg	
5 grains	5 grains	0.5 mg	125 mcg	

In changing from Thyroid USP to Proloid (thyroglobulin), substitute the equivalent dose of Proloid (thyroglobulin). Each patient may still require fine adjustment of dosage because the equivalents are only estimates.

**Overdosage Symptoms:** Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

**How Supplied:**  $\frac{1}{4}$  grain;  $\frac{1}{2}$  grain; scored 1 grain;  $1\frac{1}{2}$  grain; 3 grain; and scored 5 grain tablets, in bottles of 100 & 1000; and scored 2 grain tablets in bottles of 100.

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(Continued from Page 5)

of Table I show that (1) obstetrician-gynecologists, (2) generalists who tend to limit practice to obstetrics and gynecology, and (3) pediatricians indicated the greatest interest in sex education and family planning, for obvious reasons. Questionnaires from these groups were usually answered in more specific detail. However, many questionnaires from surgeons, internists, generalists, and osteopaths were carefully answered in a manner which indicated long experience and active interest concerning these subjects. Only two questionnaires from the other specialists\* (2 psychiatrists) were answered in detail, but the fact that 53 other specialists bothered to return the questionnaires indicated more than a passing interest in the subjects.

### Sex Education in South Dakota Communities:

Eighty South Dakota doctors stated that they had taught, or helped to teach, sex education courses in their own communities. Most of these were organized courses, sponsored within the framework of the school system, but some were under the auspices of church groups.

Table II

Number of South Dakota communities served by doctors .....	69
Number of communities in which doctors help with sex education .....	38
Number of communities in which doctors reported that no sex education courses were given .....	11
Number of communities served by doctors from which no answer was returned .....	20

Table II shows that more than half of the South Dakota communities served by doctors have organized sex education courses in which the doctors participate. Nine of the ten largest communities in the state are included within this group. Some of the doctors indicated that they have traveled to several neighboring communities (sans doctors) to talk on sex education. Doctors from only eleven communities reported that there were **no** sex education courses, and some of these doctors were discouraged concerning prevailing attitudes within their communities relating to this subject. Concerning the twenty communities from which no doctors returned questionnaires, it should be noted that these were one-doctor communities in which the doctors are undoubtedly very busy. No doubt some of these doctors find spare minutes for sex education, but none for questionnaires!

### Types of Audiences:

Among the eighty doctors who reported that they have participated in sex education courses,



a majority have spoken to all age groups concerning this subject (Table III).

**Table III**  
Types of Audiences  
Number of doctors who reported  
talking with respective groups  
concerning sex education

Group	
Adults*	63
High School	79
Junior High School	49

\*Parents, PTA, Service Organizations, Church Groups, College-age Groups, etc.

It is apparent that many reporting doctors preferred the more mature audiences. However, there was general agreement among those who wrote special comments that children should begin to learn the physiologic, anatomic, psychologic, and moral aspects relating to sex during the junior high school age, because this is the age of most rapid physiologic development during which youngsters need accurate information and wise guidance.

Likewise, the opinions were frequently expressed that knowledge concerning sex is best learned at home, but that it can be effectively taught in church groups or within the school setting. One must agree with the doctor who wrote that this subject should be presented "gently, wisely, skillfully," or not at all, because an amoral, brittle, harsh, or vulgar presentation may be more damaging to the developing youngsters than is ignorance.

**Subjects Discussed during Sex Education Lectures:**

Doctors were asked to indicate which subjects they discussed while talking to respective age groups concerning sex education. Table IV shows a notable reticence concerning certain topics — a reticence which is only slightly greater with the junior high school age groups, than with high school or adult groups.

**Table IV**  
Subjects Discussed by Doctors During  
Sex Education Lectures

Respective Subjects	Respective numbers of doctors who will discuss subjects	
	Adult or high school audiences (total of 80 Drs.)	Junior high audiences (total of 49 Drs.)
Reproductive anatomy (male and female)	80	43
Reproductive physiology	80	42
Menstruation	80	42
Conception, pregnancy, labor, delivery	76	36
Nocturnal emissions	48	27
Masturbation	46	30
Morality of sexual attitudes	60	36
Self-control of physiologic urges	62	34
Differences in development and maturity in boys and girls during puberty and adolescence	70	38
Venereal diseases	73	40

**Males and Females Separated or Mixed in Younger Groups?**

The doctors were asked whether they preferred to lecture to mixed groups of junior high school, or high school students, or whether they preferred to separate the boys from the girls when discussing sex education (Table V). Fifty-five doctors answered that they preferred to separate boys from girls, particularly in the junior high school. Several noted less student embarrassment, and more student attention, when sexes were separated than when they were together in class. Twenty-five doctors answered that senior high school students were adult enough to study this subject intelligently in mixed groups, particularly during the junior and senior years.

Certainly, if junior high school boys and girls are separated, the lecturer can tailor his talk more specifically for each sex. For instance, a more detailed explanation of the physiology of menstruation may be given to the girls. Conversely, for the boys, the lecturer could spend more time concerning the physiology of sperm production, and the normal phenomenon of nocturnal emissions. Judiciously and thoughtfully, he may also be able to allay latent fears in the minds of some boys concerning the supposed damages which are erroneously thought by some to result from occasional masturbation.

**Table V**  
Junior High and High School Audiences  
Number of doctors who prefer to **separate**  
boys and girls into different audiences 55  
Number of doctors who prefer to speak to  
boys and girls together 25

**Sex Education within Local School Systems:**

Of the 235 doctors who answered this questionnaire, 102 reported that there were sex education programs within the school systems in their communities. The remaining 133 doctors either reported no such program in their local school systems, or did not know of them. Table VI shows that these programs are most often under the auspices of the schools' biology departments, sometimes supervised by the schools' nurses, and rarely administered within physical education departments.

**Table VI**  
Sex Education Within School Systems, Under  
Auspices of:

	Number of doctors reporting
Biology Department	34
School Nurse	13
Physical Education Department	3

Individuals who were asked to contribute to  
(Continued on Page 12)



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**Charcoal is why.**

**Tareyton is better.**

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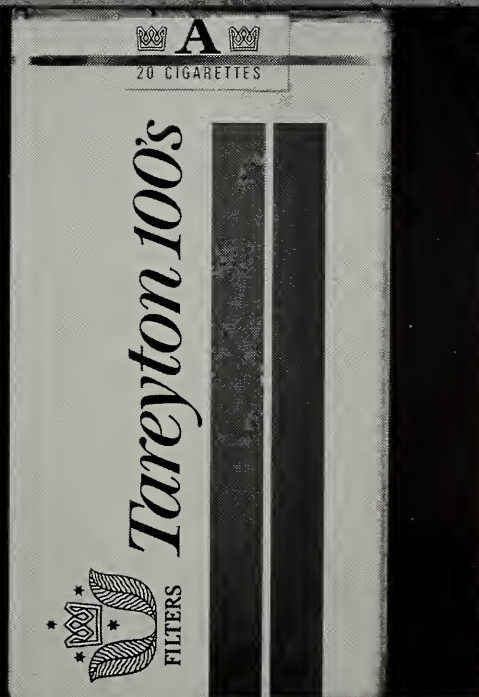
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A taste no plain white filter can match.

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(Continued from Page 8)

sex education instruction within South Dakota school systems were doctors, ministers and priests, lawyers, teachers, and parents (see Table VII).

Table VII

Which Individuals Were Asked to Contribute to Sex Education Courses in the Schools?

Doctors .....	92
Ministers and Priests .....	38
Lawyers .....	6
Teachers .....	2
Parents .....	1

Undoubtedly, a good many more teachers and parents are involved with this very fundamental portion of education than Table VII would seem to indicate. However, the table does indicate accurately that sex education is primarily a professional responsibility of the medical profession (see bibliography).

#### Discussion:

Certainly, some South Dakota parents conscientiously and lovingly teach their children what they know about anatomy, physiology, psychology, and morality of sex and family living. Many other parents tend to regard this educational problem as an insurmountable obstacle, but are often more knowledgeable than they realize, for they usually have the experience of a successful marriage to utilize while answering questions. In parts of South Dakota their knowledge has been augmented by lectures to adult audiences of parents, by doctors and clergy, in church, club or PTA groups. Also, it has been supplemented by family doctors recommending for parent reading (and, thereafter, for pubertal child reading and family discussion) certain well-written books: (1) **Attaining Manhood**, (2) **Attaining Womanhood**, and (3) the American Medical Association series of pamphlets concerning sex education; (see the bibliography).

We may conclude, after conservative evaluation of the doctors' questionnaire answers, that more than half of the junior high school and high school students in South Dakota receive the benefits of sex education courses organized within respective local school systems, nearly always supplemented by instructional lectures by local doctors, and in some instances by local clergy. Educational aids include movies (i.e., "Human Growth"; see bibliography), film strips, chalk-on-blackboard diagrams, and 35 mm. slides. (Simple illustrations, adequately but sparsely labeled, are less confusing and more educational for lay audiences. Among younger audiences, full-color illustrations are more likely to stimulate the erotic imagination than

the intellect and, therefore, are best avoided.)

Also, in many instances, such educational courses have been organized under the auspices of church groups, for developing youngsters.

For those doctors who may be interested, the American College of Obstetricians and Gynecologists has compiled a brochure, listing visual aids and printed material, entitled, "Family Life (Sex) Education; a Professional Responsibility" (see bibliography). Likewise, the College has developed a Technical Bulletin No. 15, Sept. 1970, entitled, "Family Life Education; a Checklist for Speakers" (see bibliography).

Finally, it is the opinion of this author, based on twenty years of experience, that no speaker can discuss the general subjects included within sex education without projecting some portion of a human, moral attitude concerning sexual behavior. If one attempts to avoid any moral judgments or viewpoints, and presents a purely informational and technical lecture, he will, possibly unwittingly, present a negative, almost animalistic attitude toward sexual behavior. Therefore, the lecturer concerning sex and family life, be he doctor, minister, or teacher, must make a conscious decision whether he will allow his remarks to project a moral attitude toward sexual behavior. Since little is gained and much lost to society by presenting a purely technical, amoral (or morally negative) lecture concerning sex and family life, this author has always chosen to project the highest moral attitudes which are commensurate with the known anatomy and physiology of reproduction. A teacher must not be a follower, but a leader.

#### BIBLIOGRAPHY

1. **Attaining Manhood** by George W. Corner, M.D., Harper & Rowe, Publishers, 49 East 33rd Street, New York, N. Y. 10016.
2. **Attaining Womanhood** by George W. Corner, M.D., Harper & Rowe, Publishers, 49 East 33rd Street, New York, N. Y. 10016.
3. The following list of pamphlets are written and printed by The American Medical Association, and are available for a small fee to cover printing costs by writing to 535 North Dearborn Street, Chicago, Illinois 60610:
  - "A Story About You" OP-13
  - "Finding Yourself" OP-20
  - "Approaching Adulthood" OP-10
  - "Parents' Responsibility" OP-12
  - "Facts Aren't Enough" OP-11
  - "Why Girls Menstruate" OP-330
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4. "Human Growth" — a 19-minute movie film, satisfactory for introducing the subject of reproductive physiology and anatomy to junior high and high school audiences. Available by writing the Film Library, State Health Department, Pierre, South Dakota 57501.
5. The following aids for doctors who are asked to talk concerning sex education have been compiled and printed by The American College of Obstetri-



cians and Gynecologists, and are available by writing to 79 West Monroe Street, Chicago, Illinois 60603:

- (a) "Family Life (Sex) Education; A Professional Responsibility" (a qualified listing of visual and printed aids) 5th edition, 1969.
- (b) "Family Life Education: A Checklist for Speakers" (Technical Bulletin No. 15, Sept. 1970).

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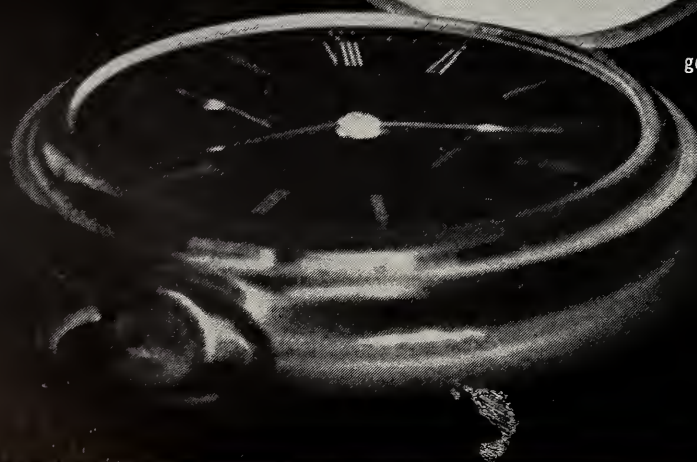
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# Scientific

# PAPER

## SINGLE STAGE REPAIR OF A MEDIAN CLEFT LIP IN AN INFANT WITH PREMAXILLARY AGENESIS

JOHN W. BEASLEY, M.D.<sup>1)</sup>

AND

JOHN B. GREGG, M.D.<sup>2)</sup>

Unlike the lateral labial clefts which occur about once in 750 live births and may appear in otherwise normal infants, the median clefts are quite rare and are associated with other abnormalities which are incompatible with lengthy survival. Because the life expectancy of these infants is usually only a few months at most, surgical intervention is generally not necessary. However, if the child survives, surgery may become necessary to facilitate nursing care. Repair of the median cleft poses special technical problems as well as those related to the dismal prognosis for these patients.<sup>1</sup>

One of the syndromes which includes a median cleft lip is that of premaxillary agenesis which occupies one end of the spectrum of the holoprosencephalic disorders. Several complete reviews of the holoprosencephalies are available<sup>6, 9, 10</sup> or in press.<sup>5</sup>

The range of these disorders is from the extreme of cyclopia, through ethmocephaly, cebocephaly, to premaxillary agenesis. These disorders are characterized by various degrees of failure of the midline facial structures to form, presumably secondary to severe malformations of the brain. It appears that the basic defect is in the interactions of the rostral and of the notochord. This leads to a failure of differen-

tiation (of variable degree) of optic and olfactory structures, telencephalon and diencephalon and the cerebral hemispheres since the brain fails to divide along the three main planes. The result is a small brain consisting of smooth cortices surrounding a large central ventricle.<sup>5, 7</sup>

A comprehensive review describing the etiologies of holoprosencephalies has recently been presented by Cohen and Gorlin.<sup>4, 5</sup> These disorders have diverse etiologies: genetic, chemical, and physical. Holoprosencephalies can be found either as the manifestation of homozygosity of a recessive gene or as the result of short arm deletion of chromosome 18 in instances where the remaining chromosome bears the "recessive" gene.<sup>10</sup> The anomaly, or variants thereof, may also be associated with D<sub>1</sub> trisomy, other chromosomal abnormalities or with physical and chemical factors.<sup>4</sup>

The cycloptic child is microcephalic and has a small midline proboscis above the single eye. The child with ethmocephaly has separate eyes and a small proboscis between them. In cebocephaly the proboscis has moved down to a nearly normal position. All of these infants have severe and generally immediately fatal neurological malfunctions although a few long term survivals have been reported.<sup>12</sup> Often these infants do not have a cleft lip, the maxillary processes being fused at midline and thus compensating for the absent philtrum. Hypertelorism of variable degree is present in these children. While premaxillary agenesis is also generally associated with overwhelming neurological

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NOTE: Financial assistance for this project was received from the School of Medicine, University of South Dakota, Vermillion, South Dakota.



problems, a few of these individuals can grow and show some social ability. All of these infants have midline labial clefts.

Other, unrelated, forms of midline defects are found. A median nasal cleft can occur in a child with ocular hypertelorism. Here the prognosis for normal mental development is relatively good, although either defect alone carries a very poor prognosis.<sup>6</sup> It is possible that these and other, more minor, midline anomalies such as congenital cysts of the nasal region may arise from defective development of the fronto-nasal process only or the lateral nasal processes only. It has been suggested that bifid noses and nasal septal defects may arise from defective infolding of the fronto-nasal process or failure of the invaginating sides of the system to fuse.<sup>2, 3</sup> Midline facial defects can also occur in conjunction with the orodigitofacial dysostosis syndrome<sup>9, 11</sup> which consists of a "pseudo-cleft of the midportion of the upper lip, lobulated tongue, and frenular hyperplasia." Skin and digital changes also occur with this syndrome. It is reported that this anomaly usually is lethal in males, although at least one case has been described in a chromosomally normal male.<sup>3</sup>

**Case report:** A female infant was born to a 44 year old Caucasian woman who had had five normal, full term children previously. The 34 week pregnancy was uneventful; there were no viral diseases or other illnesses. Only prescription prenatal vitamin and mineral supplements were taken during pregnancy. There was no family history for congenital malformations and specifically none for facial defects.

Examination showed a median cleft of the lip, 1.9 cm wide with complete absence of the prolabium. The columellar portion of the nose was absent although the nasal septum was present. The choanae were patent. The palate was intact. Skull x-rays showed almost complete absence of the frontal fossae and sphenoid ridges. The tongue and posterior pharynx were structurally normal. Radiographic and clinical examinations revealed no cardiac, pulmonary, or thoracic abnormalities. The abdomen, extremities and genitalia were normal.

The baby cried and breathed spontaneously. The early postnatal course was marked by the onset of frequent generalized convulsive seizures as well as myoclonic episodes. These initially decreased in number and severity

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under medication, but then gradually became more severe despite treatment. The child responded with a startle response to noise, light and touch, but showed no evidence of any behavioral growth during the first five months. Despite her multiple problems, she grew from 2840 grams to 4070 grams in five months by which time she was 60 cm long. Her head circumference at birth was 28.7 cm and at 5 months of age 29.5 cm. From birth she had periods of respiratory distress: at times on an ineffective cough reflex basis and on other occasions secondary to seizure activity.

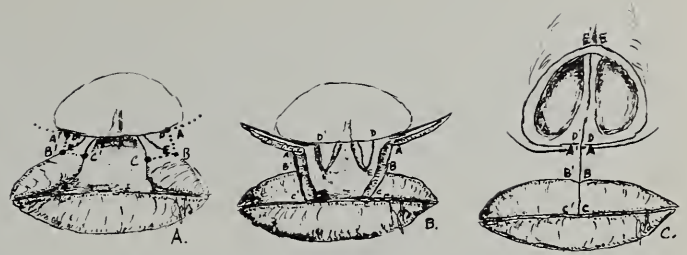
Because it was felt immediately after birth that the congenital defects were incompatible with longevity, treatment consisted of tube feedings, anticonvulsants and supportive care only, anticipating an early demise. However, she survived and became a time consuming nursing problem in feeding and general care. Therefore, to decrease the nursing care it was elected to repair the cleft, attempting to close the lip defect and at the same time to fashion a nasal columella. Figure #1 shows her appearance at five months of age, preoperatively.



**Figure #1.**

Pre-operative appearance of infant.

The repair was performed under fluothane endotracheal anesthesia utilizing flaps from the midportion of each of the upper lip segments rotated medially and anteriorly for the nasal columella and upper lip flaps rotated medially for the lip closure. (See Figure #2). It was possible to obtain an excellent approximation of the lip segments and adequate tissue for the columella with this procedure. No attempt was made to add bone, cartilage or other supportive tissue into the undersized nasal septum. Plastic inserts were placed into each nostril to support the columellar flaps after surgery. Figure #3 shows the postoperative appearance.



**Figure #2.**

Development and closure of flaps for construction of columella and upper lip.



**Figure #3.**

Post-operative appearance.

Postoperatively, the child had considerable respiratory distress (in part due to the partial nasal obstruction) and evidence of bilateral pneumonitis appeared. To relieve the labored respirations the original nasal plastic inserts were replaced with different plastic inserts which were of larger caliber. These apparently placed excessive pressure on the new columella and resulted in necrosis of this structure. The remainder of the repair held up well despite continued seizures during which there was forceful tongue thrusting against the upper lip. Twelve days postoperatively the child developed

(Continued on Page 23)



# Gone with the wind





(Continued from Page 17)

increasingly labored respirations and fever which did not respond to treatment, and she expired.

At autopsy the only additional abnormalities found were those involving the brain which weighed only 161 grams. It was almost without convolutions, having a thin, cortical mantle lacking hemispheric divisions which surrounded a large cistern. There were no definable frontal or occipital lobes, and the first cranial nerves were absent as was the optic chiasm.

**Discussion:** Fortunately midline defects of the upper lip and nose are rarely encountered. In the usual circumstance when the anomaly is severe it is incompatible with longevity and the child expires soon after birth. In the event there is prolonged survival, surgical treatment may become necessary to assist nursing care. The case presented here has demonstrated to our satisfaction that it is possible to correct the defect in the upper lip and simultaneously repair the nasal columella utilizing flaps. Flaps similar to those employed here could be used to correct other nasal columellar defects.

**Summary:** A case involving the repair of a wide median cleft and the construction of a nasal columella in a five months old child with premaxillary agenesis is described. Although the columella degenerated, probably due to faulty postoperative handling, it is felt that the approach offers a practical method for the treatment of this deformity. The syndrome of premaxillary agenesis is discussed briefly in its relationship to other median facial defect syndromes.

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#### GONORRHEA ON RAMPAGE

A marked increase in gonorrhea, especially among young people, was reported recently by the World Health Organization. "The disease is currently out of control," a WHO report said. A 13.9 percent increase in the United Kingdom in 1969 and a 7 percent increase estimated for 1970 were noted in the report. Denmark and Canada also reported an estimated rise of 15 percent in 1970. "In the United States, the estimated number of cases of gonorrhea is 1.8 million, corresponding to an annual incidence of some 900 per 100,000 population, considered by some as an epidemic situation," WHO said.

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#### LIP PRINTS USEFUL IN I.D.

Lip prints have some of the same individual characteristics as fingerprints and may offer a new means of personal identification, two Japanese dental scientists reported. Drs. Kazuo Suzuki and Yasuo Tsuchihashi of Tokyo said they discovered in a study that there were individual differences in the shape of lip grooves and wrinkles. In DENTAL ABSTRACTS, published by the American Dental Association, the scientists cited a recent case in which the lip print method was used in the investigation of a group of anarchists threatening to blow up the Tokyo police headquarters.

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#### DENTISTS RECOGNIZE SOCIAL PROBLEMS

Dentists are meeting the challenges of today's social problems in the delivery of dental care services, according to an editorial in the February issue of the JOURNAL OF THE AMERICAN DENTAL ASSOCIATION. The editorial said the "profession has recognized that the treatment and prevention of disease are social problems and that their social aspects cannot be ignored." The editorial also noted that "there is little doubt that the profession can influence — favorably — the course of events to come. If it is to do so it must offer reasonable alternatives to proposed government programs that are not in the best interests of the public."





## CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



**Dr. William O. Rossing, M.D.\***  
*Internist, FACP, discussor*

**John F. Barlow, M.D.\*\***  
*Pathologist, FCAP, editor*

### AN 80 YEAR OLD CAUCASIAN FEMALE WITH FEVER OF UNKNOWN ORIGIN

#### CASE NO. M484601

This 80-year old Caucasian female entered Sioux Valley Hospital on 6-6-68 with a chief complaint of intermittent fever.

Three months prior to admission, the patient had noted the first of three episodes of "flu" characterized by shaking chills, fever, sweating, and anorexia. A third episode occurred and she was admitted. There was some dry cough associated with each episode but no sputum was produced.

Physical examination: temperature 101<sup>o</sup>, respirations 24/minute, blood pressure 142 systolic and 60 diastolic, pulse 80/minute. The patient was acutely ill and had dentures and mild arteriosclerotic changes in the fundi. The lungs were clear to auscultation and percussion. There was a grade III (six grades) harsh systolic murmur in the aortic area radiating to the neck. This had been present and unchanged for some years. No organs or masses were felt in the abdomen. Neurologic examination was unremarkable. Urinalysis: yellow, clear, specific gravity 1.008, pH 5.5, negative for protein, glucose, ketone bodies, hemoglobin, microscopic — 10-12 wbc/hpf. Hemoglobin 10.8 gm%, red count 4.09 million/mm,<sup>3</sup> hematocrit 37 vol%, mean corpuscular hemoglobin 27 micromicrograms, mean

corpuscular volume 90 cubic micra, mean corpuscular hemoglobin concentration 30%, total leukocyte count 4500/mm,<sup>3</sup> erythrocyte sedimentation rate 99 mm/hr. The differential showed 63% segmented neutrophils, 3% neutrophilic bands, 2% eosinophils, 32% lymphocytes. The red cells were normochromic, normocytic. Platelets were adequate on smear. Blood pH 7.39; pCO<sub>2</sub> 52mm of Hg, carbon dioxide content 33 meq/L., sodium 129 meq/L., potassium 3.2 meq/L., chloride 81 meq/L. Prothrombin time 16.5 seconds with a control of 13.0 seconds. Multiple blood and urine cultures showed no growth. Throat culture showed normal flora. Three tests for LE cells were negative. A chest film showed mild sclerosis and elongation of the aorta and a calcified mediastinal node which had been noted on an x-ray years previously. The electrocardiogram showed non-specific changes with a wandering pacemaker and atrial and left ventricular hypertrophy. The fever subsided on tetracycline. A macro-aggregated albumin 131-I lung scan was normal. She was given potassium and triaminic.

The patient was readmitted on 11-28-68 for sudden onset of rapid palpitations. She had felt well except for intermittent low back pain and an episode of blood tinged sputum three months previously.

Physical examination: temperature was 101<sup>o</sup>F (reached 104), pulse 84/minute and regular, blood pressure 170 systolic, 100 diastolic. The patient was acutely ill. The physical examination was unchanged except for tenderness in the left lower quadrant. Pelvic examination was negative. Urinalysis: amber, cloudy, specific gravity

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Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institutes of Health, U. S. Public Health Service.



1.013, pH 5.0, negative for glucose, ketone bodies, hemoglobin, protein, microscopic 5-20 leukocytes/hpf, 2-3 rbc's/hpf, 10-12 hyaline casts/lpf. Hgb. 12.6 gm%, red count 4.30 million/mm<sup>3</sup> hct. 39 vol%, cell indices normal, total leukocyte count 6,900/mm<sup>3</sup>, erythrocyte sedimentation rate was 73 mm/hr. The differential was 81% segmented neutrophils, 3% neutrophilic bands and 16% lymphocytes. The smear showed no abnormalities. Sodium 138 meq/L., potassium 4.3 meq/L., chloride 89 meq/L.

Multiple blood and urine cultures showed no growth. Multiple stool cultures showed no enteric pathogens. Agglutinations for salmonella, brucella, and Weil-Felix reaction showed no titer on repeat determinations. Skin tests for blastomycin, coccidioidin, and histoplasmin were negative. Intermediate PPD was negative. A second strength PPD was positive. A vaginal Papanicolaou smear was Class I. Tests for occult blood in the stool were negative. A bone marrow examination was unremarkable. The bone marrow culture was negative for fungi, tuberculosis, and brucellosis. Blood smears for malaria were negative. Chest film was unchanged except for a possible infiltrate in the right upper lung which was felt not to be of clinical significance. Upper gastrointestinal series and sinus films were negative. The electrocardiograms were felt to be normal.

The patient had multiple episodes of chills and fever in the hospital. The total leukocyte count ranged between 3200 and 4800/mm<sup>3</sup> with a predominance of neutrophils. The hemoglobin dropped to a low of 9.5 gm%. She was discharged on vitamins, iron and isoniazid. She continued to have bouts of fever and weakness and inability to stand. The physical examination was unchanged except for marked weakness without paralysis. Temperature 103.6°F, pulse 92/min. and regular, respirations 26/minute, blood pressure 98 systolic, 46 diastolic. Urinalysis yellow, slightly cloudy, specific gravity 1.007, pH 7.0, 1+ protein, negative for glucose, ketone bodies and hemoglobin, microscopic: 10-15 leukocytes/hpf, 7-10 coarsely granular casts/lpf. Hemoglobin 7.4 gm/100 ml., red count 2.94 million/mm<sup>3</sup> hct. 29 vol%, mean corpuscular hemoglobin 25 micromicrograms, mean corpuscular volume 89 cubic micra, mean corpuscular hemoglobin concentration 29%, total leukocyte count 4,800/mm<sup>3</sup>, platelet count 307,000/mm<sup>3</sup>, differential 73% segmented neutrophils, 3% neutrophilic bands, 16% lymphocytes, 8% monocytes. The smear showed slight hypochromia of the red

cells. Blood urea nitrogen was 14 mg/100 ml., creatinine 0.5 mgs/100 ml., sodium 128 meq/L., potassium 3.9 meq/L., chloride 96 meq/L., pH 7.48, pCO<sub>2</sub> 42 mm of Hg, CO<sub>2</sub> content 33 meq/L. Total protein 5.0 gms/100 ml., albumin 1.4 mgs/100 ml., alpha-1 globulin 0.5 gms/100 ml., alpha-2 globulin 0.8 gms/100 ml., beta globulin 0.8 gms/100 ml., and gamma globulin 1.5 gms/100 ml. A serology was non-reactive. Lactic dehydrogenase was 370 units total with a non-specific fractionation. Serum glutamic oxaloacetic transaminase was 52 R-F units, bilirubin 0.50 mg/100 ml. total, 0.30 mgs/100 ml., indirect and 0.20 mgs/100 ml., direct. Prothrombin time 12.0 seconds with a 13.0 second control. Partial thromboplastin time 34 seconds with a 29 second control. Alkaline phosphatase 5.6 B-L units. A liver scan showed a mottled pattern with multiple filling defects. A 24-hr. urine ketosteroid was 2.4 mgs/24 hr. A liver biopsy showed acute focal cholangitis with mild fatty change and possible abscess formation. Multiple blood cultures were negative and gastric and urine cultures for acid fast organisms and fungi were negative. A blood volume determination showed a mild decrease in the red cell mass. Chest film showed mild bilateral pneumonitis. Films of the thoracic and lateral spine showed osteoarthritic changes and moderate narrowing of the L4-5 disc space indicating degenerative changes. A cholecystogram showed very faint concentration.

The patient developed anemia down to 4.1 gm/100 ml. Stools for occult blood were negative, but she said that she had passed blood per rectum. Five transfusions were given. The patient continued to have chills, fever and sweats and did not respond to cephalothin or tetracycline. She was felt to be too ill for exploration. She died four months after admission.

Past history included: (1) Thyroidectomy in 1944 for goiter (2) asthma of many years duration (3) "arthritis" of many years in knees, shoulders and back without redness and heat (4) herpes zoster at the level of D6 and 7 ten years previously (5) she had fractures of costochondral junctions 3-6 three years previously. (6) She had had a bout of left lower lobe and lingular pneumonia three years previously. At that time she had a blood pressure of 160 systolic and 90 diastolic with a calcified tortuous aorta on x-ray and calcified mediastinal node (7) 2 years previously she had had vertigo and aching and non-specific electrocardiographic changes. In 1956, electrocardiograms had been normal. (8) She had an attack of labyrinthitis several years pre-



viously. There had been no recurrence. (9) She had been treated in past years with coumarin, papaverine, and chlorthalidone before the present illness.

DR. ROSSING: We must have a tough case because we have a three-page protocol. Problems of fever of unknown origin are always hard cases. That is what this case boils down to today.

Reviewing the past history this lady has had a pretty usual history for a woman of this age. She did have at least one bout of pneumonia and may have had others which she did not remember. This does give us a background of chronic pulmonary disease which may be of some significance in this case. Otherwise, I cannot attach much significance to the past history. The present illness is characterized by severe intermittent fever, chills, and sweating associated with a dry cough which suggests some pulmonary problem. On physical examination she had a temperature of almost 102 but with a pulse of only 80. I think this is significant that she had a slow pulse rate in spite of the high temperature. The patient had a Grade III harsh systolic murmur. This could be due to aortic stenosis but could have been due to calcification and fixation of the aortic valve due to atherosclerosis. The murmur had not changed in several years, a point of significance when we speak about subacute bacterial endocarditis. There is pyuria and mild anemia. I call attention to the low white count in spite of fever. This may be significant. The abnormal electrolytes on the first admission may be explained by diuretic therapy. The potassium was low and the carbon dioxide content a little high. The sodium was depressed. This is all consistent with electrolyte loss from diuretic therapy. One could suggest that the high carbon dioxide content was due to chronic pulmonary disease. Most likely it was due to hypopotassemia and metabolic alkalosis.

DR. BARLOW: I think this points out why you should get a pH along with any series of electrolytes as Gambino has suggested.

DR. ROSSING: On reviewing the electrocardiogram, I agree with the left ventricular hypertrophy and wandering pacemaker. These changes could be due to atherosclerosis or small vessel disease of the myocardium. The P waves are tall and peaked rather than broad and flat. These P waves are more characteristic of P-pulmonale rather than P-mirale. The fever did subside on tetracycline therapy. Therefore, we

have a lady with leukopenia, mild anemia and a low pulse rate for the degree of fever.

The patient is next admitted with palpitations. I am at a loss to know whether this really represents an arrhythmia or not. Since there is no electrocardiographic documentation of an arrhythmia, I think that we will just have to attribute this to a few premature ventricular contractions. The patient had hemoptysis which again suggests a pulmonary problem. The patient again is febrile up to 104 during this admission. The pulse again is relatively low in the face of fever. The blood pressure with a diastolic of 100 is more what you would expect in a woman of this age with arteriosclerotic disease of the aorta. The patient showed lower quadrant tenderness but no mass was palpable. She was quite cachetic and a mass should have been easy to feel. She again had pyuria and casts in the urine. Her hemoglobin was higher than it was previously. The total leukocyte count was again low with a high sedimentation rate. The electrolytes were within normal limits on this admission as were agglutinins and skin tests. A second strength PPD was positive. The stools were negative for occult blood. This may be of significance in view of the tenderness in the right lower quadrant. However, the lower quadrants are often tender areas in people and it is hard to know how much significance you can place on this physical finding.

On examining the chest x-ray, there is a lot of calcium in the aorta and the calcified nodes that were described are noted. There is a fibrotic-looking process throughout the lung fields suggesting chronic pulmonary disease. There is a nice circular area of calcification which looks like it might be in the aortic ring.

The hospital course, which is a four month hospitalization before she died, is characterized by multiple episodes of chills, fever, and again moderately low white count with a predominance of neutrophils. The pulse at the next hospitalization is again low in spite of the fever. An interesting finding now is the appearance of a monocytosis which I think is significant. The electrophoretic pattern shows only a low albumin which is seen in chronic disease of many sorts. The bilirubin is normal and the serum glutamic oxaloacetic transaminase is only mildly elevated. The alkaline phosphatase is twice normal. We now have some important data. The liver scan is abnormal with multiple filling defects. A liver biopsy shows acute focal inflammation with mild fatty change and possible abscess formation. Were these little abscesses?



DR. BARLOW: I will show you the liver biopsy. Here is a focal fatty change in the liver and here is an area of marked inflammation with eosinophils, histiocytes and polys. No giant cells are

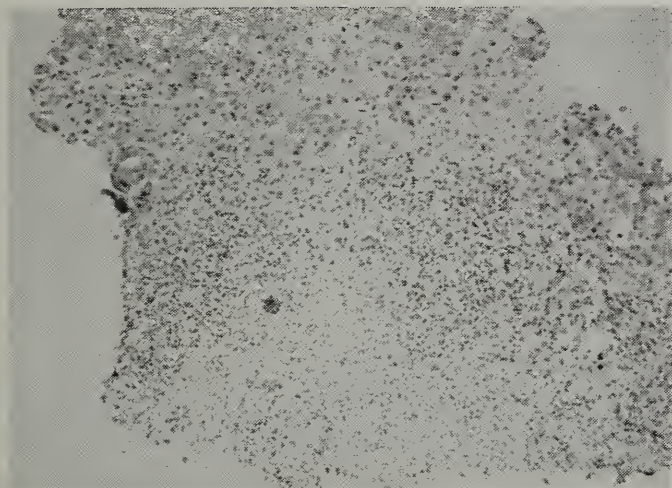


Figure I.

Liver biopsy with infiltrate originally interpreted as possible abscess wall (100x).

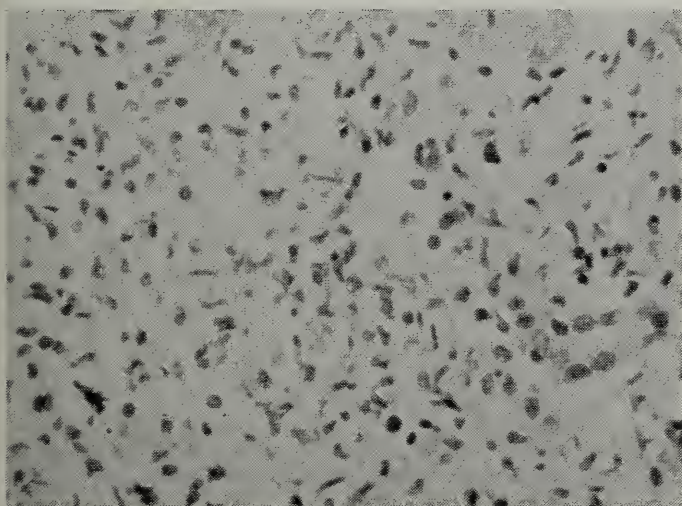


Figure II.

Higher power (430x) of liver biopsy. There is a mixed infiltrate but Reed-Sternberg cells were not seen.

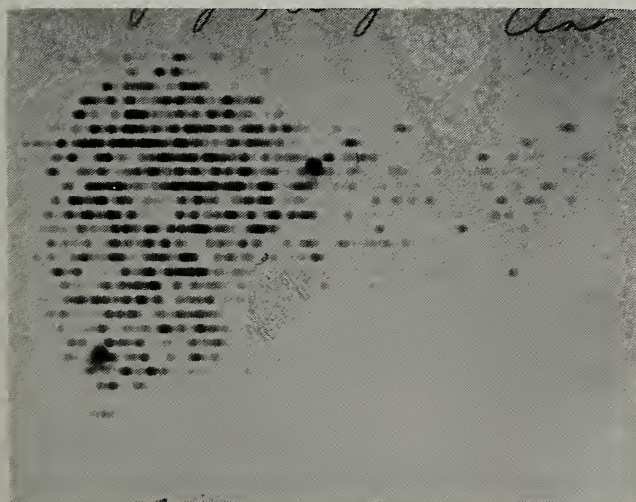


Figure III.

Liver scan shows very mottled pattern consistent with multiple filling defects such as Metastases, abscesses, cysts, areas of severe fatty change.

seen. The liver scan, by the way, was quite abnormal but this can be seen in a variety of conditions including cirrhosis, metastatic tumor or other infiltrative processes of the liver.

DR. ROSSING: The patient developed anemia and required transfusions during her illness. She was said to have passed blood by rectum but this was not documented by any observers and her stools were negative for occult blood. She was treated with tetracycline and cephalothin but did not respond to either. These are two pretty potent bacteriocidal antibiotics and should have been effective for most infections.

The differential diagnosis of a fever of unknown origin such as this is quite long. In a patient with either a fixed or changing murmur of any age, one must consider bacterial endocarditis. The patient had a positive skin test for tuberculosis and chronic pulmonary disease. One must consider pulmonary tuberculosis or extra-pulmonary tuberculosis as a cause of fever. The patient had abnormal urinalysis with pyuria and one must consider a chronic pyelonephritis, perhaps tuberculous as there was nothing cultured from the urine. There is no documentation of any of these diagnoses above since multiple blood cultures were negative and cultures for tuberculosis from several sites were negative.

One must consider neoplasm — occult carcinoma or lymphoma as a cause of fever. Collagen disease and an unusual mycotic infection are possibilities. Unfortunately, in this patient there is no lymphadenopathy or hepatosplenomegaly to suggest lymphoma. I do not see a barium enema or proctoscopic examination.

DR. BARLOW: I think these were done on an out-patient basis and were negative.

DR. ROSSING: What about an intravenous pyelogram? One must always consider renal cell carcinoma or hypernephroma as a cause of fever of unknown origin. I had a case just like that once.

DR. BARLOW: I did not see the report for an intravenous pyelogram.

DR. CURTIS FREDERICKSON\*: Wouldn't a normal blood urea nitrogen and creatinine rule out a renal tumor?

DR. ROSSING: No, it wouldn't. Both studies can be quite normal in the face of renal cell carcinoma. The blood urea nitrogen and creatinine would only rule out diffuse parenchymal disease.

DR. LOURENS WILLIKES\*: The low white

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count and anemia with fever certainly make me think of some myelophthisic process. Involvement of the bone marrow certainly could explain the low white count and the anemia. The anemia may, of course, be due to infection. Therefore, I suspect some sort of hematopoietic disease.

DR. ROSSING: Yes, that's certainly a good possibility. The bradycardia, low white count, and fever certainly suggest a salmonella infection such as typhoid fever. Viral pneumonia can produce the same picture although the clinical story is not consistent with viral pneumonia in this case. The suggestion from the liver function studies and biopsy of an ascending cholangitis plus the other signs that I mentioned of salmonella infection certainly suggest salmonellosis in this case. The unfortunate thing is that we get no help from the agglutination studies. However, there are cases of salmonellosis in which there is no rise in titer of the salmonella antibodies. This may be because the specific ones causing the infection are not tested for. There are many types of salmonella and we may not have tested for the one in this case. Would you like to comment on that, Dr. Barlow?

DR. BARLOW: It is true there are 1200 types of salmonella but about a dozen of them usually produce most of the clinical disease. Actually, salmonellosis is common but salmonella typhosa causing fever is relatively rare compared to some of the other salmonella such as salmonella typhimurium. We routinely test for groups B, C, and D. Salmonella Group A is rare in this country. However, as you point out all these sera are polyvalent and you may miss some agglutinins in the serum.

DR. ROSSING: I should also bring to mind Charcot's triad which is spiking fever, right upper quadrant pain and jaundice. Two of those things are absent. However, one must consider partial biliary obstruction with ascending cholangitis which is the cause of Charcot's triad. The reason for considering it in this case even in the absence of jaundice is the abnormal liver function tests and the liver biopsy which were abnormal. I definitely think there is intraparenchymal liver disease in this case.

I cannot completely exclude bacterial endocarditis since the patient probably had damaged valves which are predisposed to bacterial infection. However, I do not have any real definite evidence for bacterial endocarditis. The liver disease could be metastatic abscesses from bacterial endocarditis. I therefore cannot exclude

bacterial endocarditis but I cannot make it my first diagnosis.

I am most taken with the diagnosis of a focus of extra-pulmonary tuberculosis. We know that she has had recent infection or has had past infection with tubercle bacillus because of the positive tuberculin test. There were some infiltrates on chest film. The patient did have calcified lymph nodes in the mediastinum which could have been the seed of reactivation of latent infection which flared up and eroded a bronchus or vessel causing disseminated tuberculosis. The hemoptysis also would go along with this diagnosis.

The patient had low back pain and one might even consider tuberculous psoas abscess. This could also be the source of the fever.

#### DR. ROSSING'S DIAGNOSES

1. EXTRA-PULMONARY TUBERCULOSIS?
2. SALMONELLOSIS?
3. ? SUBACUTE BACTERIAL ENDOCARDITIS.
4. ? LYMPHOMA.

DR. JONES\*: I'm not clear on the patient's terminal hospital course during her last four months. Did she continue to have chills and fever all this time until death?

DR. BARLOW: Yes, she had intermittent fever with afebrile periods.

DR. NELSON\*\*: Was she maintained on Isoniazid all this time?

DR. BARLOW: Yes.

DR. ORTMEIER\*\*\*: How about brucellosis?

DR. ROSSING: That certainly is a good possibility. One should always consider that in this area of the country. I do want to emphasize the monocytosis in this case as being compatible with either tuberculosis or subacute bacterial endocarditis.

DR. WILLIKES: I think there is widening of the mediastinum on the chest x-ray and this could represent sarcoid.

DR. ROSSING: That's true. This widening could be due to enlarged lymph nodes but a tortuous aorta could produce the same picture.

DR. ORTMEIER: I think it is wise to point out that an elderly patient can have an overwhelming infection but a low white count.

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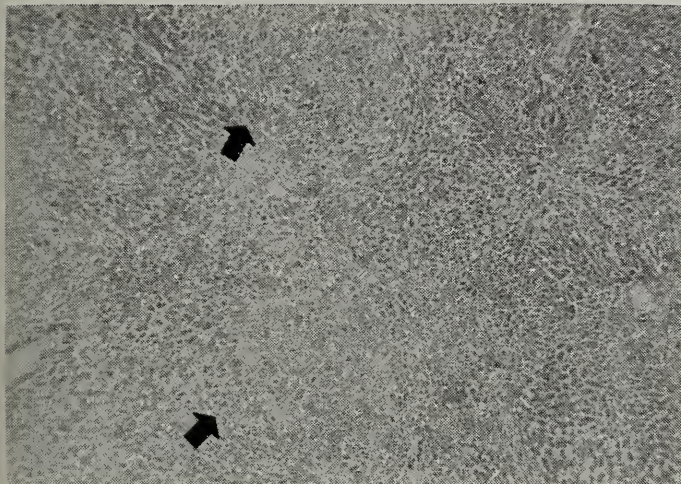
\*\*\*General practitioner, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.



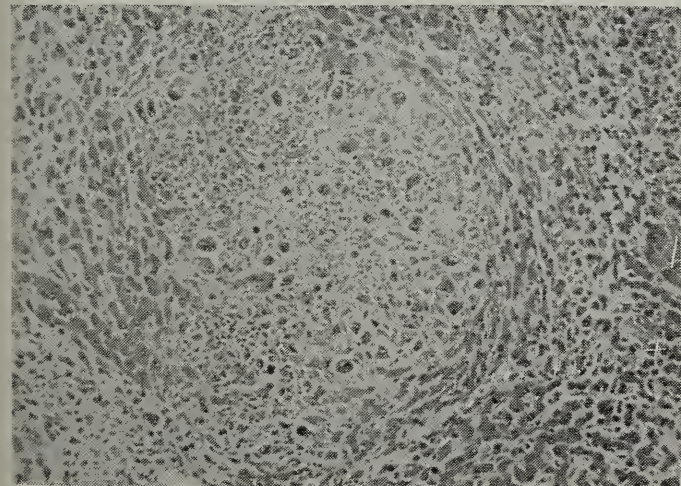
DR. ROSSING: Yes, this is certainly something you see quite often.

**PATHOLOGICAL DISCUSSION**

DR. BARLOW: The first photomicrograph again shows the liver biopsy which was interpreted as showing the wall of an abscess. As you will note there are a few eosinophils present as well as histiocytes and lymphocytes but no Reed-Sternberg Cells. The next photomicrographs were taken from the liver at autopsy which weighed 1050 grams and had multiple nodules. Here are some of these nodules microscopically. (Fig. IV, V.)



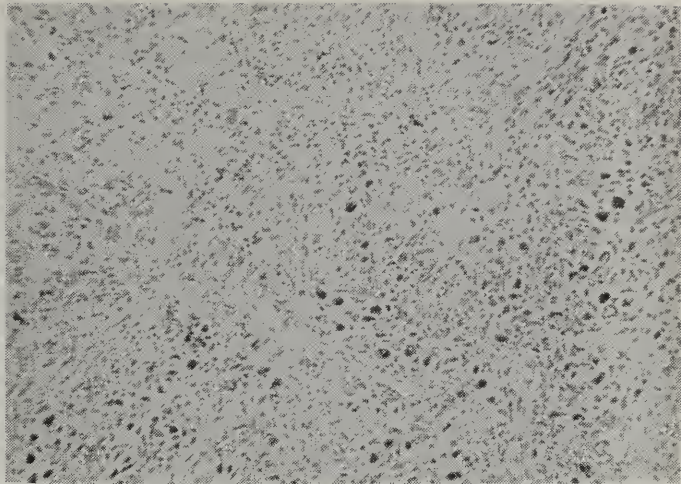
**Figure IV.**  
Arrows indicate two prominent nodules in liver. Giant cells can be seen even at this power (10x).



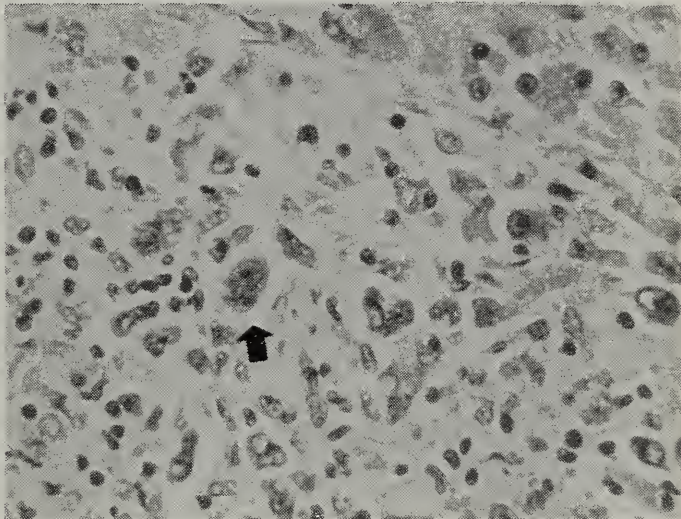
**Figure V.**  
Closeup of a liver nodule showing giant cells and fibrosis (430x).

The retroperitoneal, hilar and periportal lymph nodes were involved by a similar process. At this power many giant cells can be seen. On higher power these prove to be Reed-Sternberg Cells. Note that there are many atypical reticulum cells, very few lymphocytes and a diffuse fibrotic process. (Fig. VI, VII, IV, V).

The spleen and bone marrow were focally in-



**Figure VI.**  
Diffuse fibrotic pattern of Hodgkins disease from a retroperitoneal lymph node (430x).



**Figure VII.**  
High power (950x). Arrow points to a binucleated cell with two prominent nucleoli. This is a typical Reed-Sternberg cell.

involved. This lady, therefore, had a classic cause for fever of unknown origin—Hodgkins disease.

**FINAL PATHOLOGICAL DIAGNOSES**

1. Hodgkins Disease, diffuse fibrosis with involvement of:
  - a. liver
  - b. spleen
  - c. retroperitoneal perihilar and periportal lymph nodes
  - d. bone marrow
2. Nephrosclerosis, benign, bilateral, moderate.
3. Pancreatitis with fat necrosis, focal.
4. Calcification of mitral annulus and aortic valve, mild.
5. Solitary cyst of kidney, left.
6. Hemorrhagic cystitis of bladder (catheter).
7. Atherosclerosis of aorta, marked.
8. Chronic esophagitis.



I would like to discuss some new concepts that have arisen in recent years about malignant lymphoma and, in particular, Hodgkins Disease.

The following classification of the malignant lymphomas is relatively simple and useful:

- 1. Lymphosarcoma
  - a. lymphocytic lymphoma, well differentiated (lymphocytic lymphoma).
  - b. Lymphocytic lymphoma, poorly differentiated (lymphoblastic lymphoma).
- 2. Reticulum Cell sarcoma (includes Burkitt's).
  - a. histiocytic.
  - b. stem cell (undifferentiated histiocytic).
- 3. Mixed reticulum cell — lymphocytic.
- 4. Follicular lymphoma (Giant follicle lymphoma, nodular lymphoma, Brill-Symmer's Disease).
- 5. Hodgkins Disease (Lukes).
  - a. Lymphocytic and/or histiocytic predominance, includes nodular and diffuse patterns (includes paraganuloma of Jackson and Parker).
  - b. Mixed cellularity (roughly corresponds to granuloma of Jackson and Parker).
  - c. Lymphocytic depletion (reticular and diffuse fibrosis). Thus roughly corresponds to Hodgkin's sarcoma of Jackson and Parker.
  - d. Nodular sclerosis.

In 1947 Jackson and Parker made an attempt at correlation of the histology of Hodgkin's Disease with the prognosis and clinical picture. They divided the disease into three categories—paraganuloma, granuloma and sarcoma. The following table shows the relative frequency of distribution and survival dates.

TYPE	Frequency Distribution	5-year Survival	10-year Survival
Paraganuloma	5-15%	80-90%	30%
Granuloma	85-90%	30%	10%
Sarcoma	3- 5%	rare	0%

The problems with this classification are that 1) most of the cases fall into the granuloma group, 2) the terms paraganuloma and granuloma are misleading but were intended to mean they were infective and only sarcoma was a true malignancy.

Thus, only the histologic entities of paraganuloma and sarcoma were useful in determining prognosis while the largest category of granuloma was a waste basket.

Lukes et al working at the Armed Forces Institute of Pathology devised a more useful classification and correlated pathological material

with clinical staging. The frequency and fifteen year survival in the Lukes classification is presented below. The only diagnostic criteria common to all is destruction of lymph node architecture and the presence of Reed-Sternberg cells which are essential to the histologic diagnosis by any classification.

	Frequency In %	Survival In %
I Lymphocytic and/or histiocytic, predominance		
a. nodular	10	40-45
b. diffuse	10	25
II Nodular Sclerosis	40	15-25
III Mixed cellularity	25	10
IV Diffuse fibrosis	10	rare
V Reticular	5	rare
	(rare)	

The presence of many lymphocytes is correlated with a good prognosis and depletion of lymphocytes with a poor prognosis. The concept fits well with the material of Jackson and Parker since paraganuloma is characterized by many lymphocytes and a few Reed-Sternberg cells and sarcoma by many Reed-Sternberg cells and atypical reticulum cells and few lymphocytes. Hodgkins sarcoma corresponds to Lukes reticular form. Both are associated with a poor prognosis. Nodular sclerosis was originally classified along with granuloma but was found to be associated with a relatively good prognosis. The disease is usually seen in females and mediastinal involvement is common with this disease. The pattern shows areas of tumor separated by broad bands of fibrous tissue. The mixed cellularity type of Lukes was the classical granuloma. The diffuse fibrosis was also classified with granuloma, and, incidentally, is the type demonstrated in our case today. It must be emphasized that as Hodgkins disease progresses the histologic form may change. For instance, lymphocytic predominance may change over months or years to a picture of diffuse fibrosis terminally.

Lukes found that localized Hodgkins was associated with lymphocyte or histiocyte predominance while latter stages of the disease were associated with mixed cellularity, diffuse fibrosis or reticular pattern. Thus, the histologic picture corresponds with the progression of the patient's disease or with the body's reaction to the disease.

Nodular sclerosis seems to be a local form of Hodgkin's disease seen in mediastinum. This distinctive histologic pattern has a good prognosis if seen in an early localized form.

Lukes classification was simplified to four categories now used — lymphocytic predominance, mixed cellularity, lymphocytic depletion



and nodular sclerosis. The pathologist should attempt to classify the disease into one of these categories.

Also it might be germane to mention that the histologic diagnosis of Hodgkins disease can be difficult. Since only certain criteria are acceptable for histologic diagnoses, such diagnoses as atypical hyperplasia are often rendered by pathologists. This often sends clinicians muttering down the hall saying unkind things. However, if you really feel the patient has the disease keep biopsying lymph nodes until you make the diagnosis. Please do not take inguinal nodes unless they are the only ones available and please make sure to take the lymph out intact and place it immediately into fixative or into the hands of the pathologist.

Another point that should be mentioned is that there is an excellent clinical classification of Hodgkins disease which may be correlated with prognosis. The clinical stages that follow can each be divided into A and B to indicate the presence or absence of systemic symptoms. The latter (B) is associated with a poorer prognosis than the former (A).

#### REVISED CLASSIFICATION OF HODGKIN'S DISEASE

Stage I — Disease limited to one anatomical region.

Stage II — 1) Disease limited to two contiguous anatomical regions on the same side of the diaphragm. 2) Disease in more than two anatomical regions or in two noncontiguous regions on the same side of the diaphragm.

Stage III — Disease on both sides of the diaphragm but limited to involvement of lymph nodes, spleen, and Waldeyer's ring.

Stage IV — Involvement of bone marrow, lung, liver, pleura, bone, skin, gastrointestinal tract or organs other than lymph nodes, spleen or Waldeyer's ring.

A final word is that changes in therapy have occurred with Hodgkin's disease. Instead of small doses of x-ray used years ago, tumor doses of x-ray to the primary and adjacent lymph node areas have resulted in long survivals especially in the early stages of the disease. The term "cure" is even being suggested by the more zealous. At any rate, long term survival after x-ray therapy and with the aid of chemotherapeutic agents is available and should be expected in many cases. Hodgkin's disease is no longer utterly untreatable or hopeless. Good results should be expected. Unfortunately, our case today would be stage IV

clinically and in the lymphocytic depletion group pathologically and does not support my optimistic statements. I am referring to more easily diagnosed cases. However, I would like to stress that many experts feel a patient with a histologic diagnosis of Hodgkins should have a staging procedure which may include laparotomy with splenectomy, lymph node biopsy and liver biopsy followed by appropriate treatment. These experts are very optimistic about their results and feel a patient with Hodgkins disease does not have a hopeless prognosis.

#### POST-AUTOPSY DISCUSSION

DR. JONES: Do you mean that this patient had extensive involvement of Hodgkin's disease and yet did not have an enlarged spleen? Isn't this unusual?

DR. BARLOW: Yes, the spleen weighed only 375 gms. This is unusual in my experience.

DR. KAHLER\*: I have had patients with retroperitoneal lymphoma and Hodgkin's disease without splenomegaly.

DR. MARTIN CHIPMAN\*\*: I think an interesting thing can be said about lymphoma. Recently I have seen the third patient I have had who presented to me because of severe vascular headaches who had lymphoma. Two of these already have proven lymphoma. The third probably had lymphoma. I wonder if vascular headaches is one of the unusual manifestations of malignant lymphoma.

DR. SCHULTZ\*\*\*: Certainly it is known that malignant lymphomas may have unusual presentations. For instance, Hodgkin's disease may present because of pain in the region of the involvement after alcohol ingestion.

DR. ROSSING: The patient may also go into shock after ingestion of aspirin.

DR. DELWIN K. OHRT†: Although the intravenous pyelogram may have shown the deviation of the ureters due to the enlarged retroperitoneal nodes, it probably would have been normal from my view of this case at autopsy. However, a lymphangiogram might have made the diagnosis in this case. I think the Radiology Department does these. It can be done by injecting a lym-

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phatic in the foot with contrast material and then getting an x-ray of the retroperitoneal lymph nodes. It is a tedious type of procedure but sometimes very helpful diagnostically.

I also think it is important for us to realize that the concept of Hodgkin's disease as a diffuse disease from its inception is being questioned. It may well be a localized disease that is curable in the early stages by radical measures. The latter stages of the disease which Dr. Barlow has outlined often do not respond terribly well to therapy. I think this case would probably have been an example of the latter.

DR. JONES: Yes, in my experience retroperitoneal lymphoma like this has done extremely poorly.

DR. BARLOW: The attending physician in this case did not feel the patient could have stood exploratory laparotomy but was considering it strongly.

DR. CHIPMAN: Isn't there something peculiar about the immunologic status of patients with Hodgkin's disease?

DR. BARLOW: Yes, patients with advancing Hodgkin's disease seem to have a predilection for a defect of cellular immunity or delayed hypersensitivity. This is characterized by delayed homograft rejection, tuberculin anergy and anergy to contact allergens. The defect seems to be in the lymphocyte, the effector cell of delayed hypersensitivity. The lymphocyte of Hodgkin's does not show blast transformation with phytohemagglutinin as compared to normal. Also there is a lymphopenia in advanced Hodgkin's disease. The defect in Hodgkin's is different from that of lymphocytic leukemia or multiple myeloma where the defect is in antibody production. In the latter pyogenic infections with pneumococcus are common. Infection with this organism in Hodgkin's is rare while fungi such as cryptococcus, nocardia, aspergillus, candida, etc., commonly cause infections.

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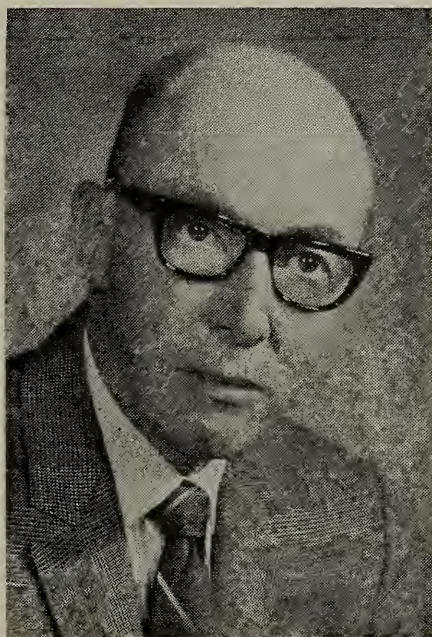
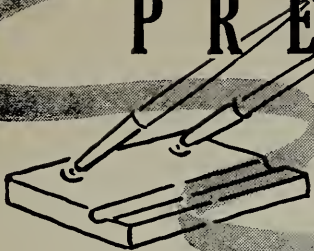
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# P R E S I D E N T ' S P A G E



This being the last time I am privileged to write the President's Page, I wish to thank all the members, commissions, counselors and officers of our Association for the help and cooperation given me. I am grateful to the entire staff of our Association for their assistance; their aid and advice was invaluable.

The changes which have been proposed in the delivery system of health care will require an informed, alert, and unified membership in our Association. We must help fashion the system we desire. Each member must take an interest and active part in the operation and decisions of the Association. Our Medical School needs your assistance. The South Dakota Medical School Endowment Fund is doing a fine job and also needs your help. We should encourage South Dakota young men to enter the medical profession and then remain in South Dakota to practice. A question that confronts us, "should South Dakota have a four-year medical school, a medical school without walls."

I encourage all members to become knowledgeable about medical foundations as some day it may be necessary to decide if a foundation is needed in South Dakota. The Regional Advisory Group of RMP and CHP is having its first meeting on April 12. It appears, as of now, that the group can now become operational. I suggest that as many as possible attend the annual meeting in Rapid City as a fine program has been arranged, also many problems must be solved.

Again thank you for permitting me to serve as your President.

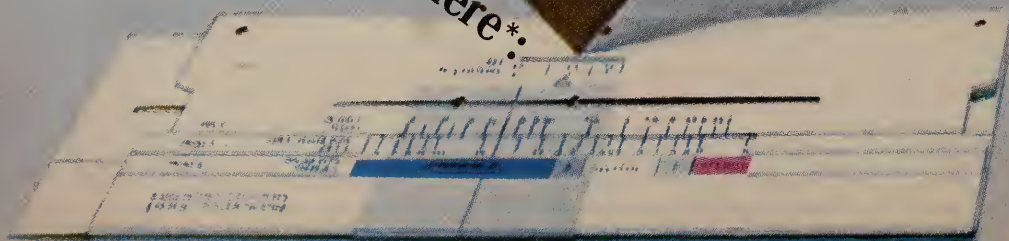
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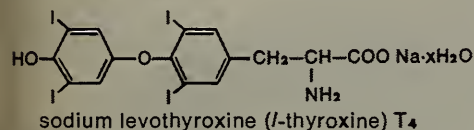
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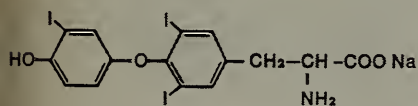
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Morphologic hypogonadism and nephroses should be ruled out and adrenal deficiency due to hypopituitarism corrected before liotrix therapy is started.

If hypothyroidism and adrenal insufficiency exist concomitantly, cortisone or similar steroids should be given at dose levels sufficient to correct the adrenal insufficiency before attempting replacement therapy with thyroid hormones.

Likewise, the possibility of alterations in the prothrombin time must be considered and closely monitored in patients on anticoagulant therapy.

Myxedematous patients are very sensitive to thyroid hormones, and dosage should be started at a very low level and increased gradually.

**Precautions:** Hypothyroid patients are especially sensitive to thyroid preparations, and those with severe hypothyroidism may be unusually so.

Initiation of thyroid replacement therapy in patients with diabetes must be carefully monitored because of potential fluctuation in daily insulin or oral hypoglycemic requirements.

As with all thyroid preparations, this drug will alter the results of thyroid function tests.

**Adverse Reactions:** Overdosage or too rapid increase in dosage of thyroid preparations can produce signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

**Dosage and Administration:** Initial dosage should be low and gradually increased at 2-week intervals until the desired clinical response is obtained.

Laboratory criteria of euthyroidism include a PBI of 3.5 to 8 mcg;  $T_3$ ,  $T_4$ , and BEI tests are useful.

For most patients, a single daily dose of Euthroid-1, -2, or -3 will maintain euthyroidism. Transfer of a patient from a maintenance dose of another thyroid preparation to Euthroid can usually be effected smoothly. See table for initiating therapy or converting from other thyroid preparations.

Euthroid (liotrix)	Approximate Equivalents			
	Natural	Thyroid USP	Synthetic $T_4$ *	Synthetic $T_3$ **
Tablet	$T_4$ */ $T_3$ ** mcg			
Euthroid-1/2 pale orange	( 30/7.5)	1/2 grain	.05 mg	12.5 mcg
Euthroid-1 light brown	( 60/15)	1 grain	.1 mg	25.0 mcg
Euthroid-2 violet	(120/30)	2 grains	.2 mg	50.0 mcg
Euthroid-3 gray	(180/45)	3 grains	.3 mg	75.0 mcg

\* $T_4$ =sodium levothyroxine (l-thyroxine)  
\*\* $T_3$ =sodium liothyronine (l-triiodothyronine)

Dosage for cretinism or severe hypothyroidism in children is the same as for adults with myxedema. Eventual maintenance dosage in the growing child may be higher than in the adult.

**Overdosage: Symptoms**—Headache, instability, nervousness, sweating, tachycardia, and unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm; chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

**Treatment**—Shock—Supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.

**Supplied:** Square W/C monogrammed tablets of four potencies, each identified by a different color (see table); bottles of 100 and 1000.

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### RES IPSE LOQUITUR — THE MATTER SPEAKS FOR ITSELF

Like the sword of Damocles hanging by a frayed thread the doctrine of *res ipse loquitur* has become an ever increasing peril above the heads of all physicians in the United States. In its original usage this doctrine was applied to the circumstance wherein a sponge found in the abdomen of a patient who had previously undergone surgery was assumed to be the fault of the operating surgeon and was presumptive evidence of his guilt. The doctrine has been perverted in recent years to the extent that therapeutic results less than the very best have been pled in court under the doctrine of *res ipse loquitur* with the connotation that when a surgeon operates or a physician treats a patient, he implies a cure with no chance of failure or less than optimum result. The broadened application of this doctrine, among other things, has led to tremendous increases in the cost of medical care and malpractice insurance. In some instances, notably in Alaska, for a time malpractice insurance was practically unobtainable.

A case settled in Alaska in 1966 set a precedent to the effect that if a patient's medical care ended in a bad result, the physician was presumed to be negligent, i.e., *res ipse loquitur*. After this court decision professional liability insurance premiums increased to such a degree and the limitations placed upon policies which were written became so rigid that to all intents and purposes malpractice insurance was non-existent for the majority of physicians in Alaska. To offset the court decision, in 1967 the Alaska State Medical Association was forced to push for legislation to restrict the use of *res ipse loquitur*. This resulted in the passage of a law limiting the use of this doctrine and ultimately to improvement in the professional

liability insurance coverage situation. The wording of the Alaska law is as follows: "Malpractice Actions Sec. 09.55.530. Declaration of Purpose. The legislature considers that there is a need in Alaska to codify the law in regard to medical liability in order to establish that the law in Alaska in this regard is the same as elsewhere. Sec. 09.55.540. Burden of Proof. (a) In a malpractice action based on the negligence of a physician licensed under AS 08.64, or a dentist licensed under AS 08.36, the plaintiff shall have the burden of proving (1) the degree of knowledge or skill possessed or the degree of care ordinarily exercised by physicians or dentists practicing the same specialty in similar communities to that in which the defendant practices; (2) that the defendant either lacked this degree of knowledge or skill or the failure to exercise this degree of care; and (3) that as a proximate result of this lack of knowledge or skill or the failure to exercise this degree of care the plaintiff suffered injuries that would not have otherwise been incurred. (b) In malpractice actions there shall be no presumption of negligence on the part of the defendant. Sec. 09.55.550. Jury Instructions. In malpractice actions the jury shall be instructed that the plaintiff has the burden of proving, by a preponderance of the evidence, the negligence of the physician or dentist. The jury shall be further instructed that the injury alone does not raise a presumption of the physician's or dentist's negligence."

To date South Dakota has been most fortunate in that malpractice actions against physicians in this state have been few and there has not been any notable attempt to utilize the *res ipse loquitur* doctrine. It seems probable that legislation to limit use of *res ipse loquitur* may not be needed in South Dakota but the provision



in the Alaska law which provides that the degree of care is to be determined **by the community in which the physician practices**, might bear careful scrutiny. In some states recently, exemplified by Michigan (Mich. SupCt; Naccarato v. Grob, 11/12/70), the legal philosophy has been changed to imply that the care exercised by a physician, regardless of where he practices, must be equivalent to the care administered in the largest medical center. In this instance, during a lawsuit against a pediatrician involving failure to use routine testing for P.K.U., the court allowed the testimony by expert witnesses from outside Detroit that testing for P.K.U. is a routine, standard, nationwide procedure, used by pediatricians to diagnose and treat a rare childhood disease, despite the fact that such testing is not a common practice by Detroit area pediatricians. If this latter concept, i.e., guilt by omission as well as commission, is allowed to metastasize, it can easily jeopardize the physician who practices in a small community away from the medical center, usually with less medical facilities available.

It is a too human frailty to procrastinate con-

cerning matters which are distasteful with the result that the barn door is often locked long after the horse is stolen. Although South Dakota is not plagued with malpractice litigation now and the future does not appear to have problems pending, might it not be wise to give due thought to the situation which has existed in Alaska recently and to their solution to the problem. The SDSMA and its legal representatives might wisely investigate the matter and consider whether changes are needed in the existing law relating to the practice of medicine.

J. B. Gregg, M.D.

#### HEALTH LEGISLATION

A national health insurance bill will not be enacted in 1971 or 1972, according to Herman M. Somers, Princeton University professor. Last fall, Somers told the National Pharmaceutical Council that "debate will go on for the next few years" but even sponsors of present legislative proposals know their programs are not workable. So compromises and trade-offs will be the pattern until after the 1972 elections, he said.

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withdrawal of barbiturates and should be treated in the same fashion. Use caution in administering to individuals known to be addiction-prone or those whose history suggests they may increase the dosage on their own initiative. Repeat prescriptions should be under adequate medical supervision.

**Usage in Pregnancy:** Weigh potential benefits in pregnancy, during lactation, or in women of childbearing age against possible hazards to mother and child.

**PRECAUTIONS:** If sleeplessness is pain-related, an analgesic should also be prescribed. Perform periodic blood counts if used repeatedly or over prolonged periods. Total daily intake should not exceed 400 mg, as greater amounts do not significantly in-

crease hypnotic benefits.

**ADVERSE REACTIONS:** At recommended dosages, there have been rare occurrences of morning drowsiness, dizziness, mild to moderate gastric upset (including diarrhea, esophagitis, nausea and vomiting), headache, paradoxical excitation and skin rash. There have been a very few isolated reports of neutropenia and thrombocytopenia; however, the evidence does not establish that these reactions are related to the drug.

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# MEDICAL ASSOCIATION

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## News Notes • Changes • Births • News

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The American College of Radiology has available a 19-minute, 16mm sound film, "The Roentgen Anatomy of the Normal Bones and Joints" edited and narrated by **James P. Steele, M.D.**, Yankton.

\* \* \*

A state-wide program for the care of people with end-stage kidney disease was developed by the governor's ad hoc committee on renal disease, which is chaired by **Myron Jerde, M.D.**, Rapid City. Others named as Vocational Rehabilitation consultants for kidney patients include **R. J. Zakahi, M.D.**, Pierre, and **W. O. Rossing, M.D.**, Sioux Falls.

\* \* \*

**Lonnie Waltner, M.D.**, Bridgewater, spoke at a meeting of the Emery PTA and showed slides of his work as a county health officer in Mississippi.

\* \* \*

Those attending the meeting of the Lake County Association for Retarded Children heard **E. H. Heinrichs, M.D.**, Watertown, speak on "Medical Diagnosis of the Mentally Retarded."

The University of South Dakota Medical School recently dedicated the Sundet Faculty Seminar Room in honor of **Nere J. Sundet, M.D.**, Kadoka, in appreciation of the donation which made the room possible.

\* \* \*

**Robert F. Thompson, M.D.**, Yankton, and **H. Phil Gross, M.D.**, Sioux Falls, participated in a panel discussion at a symposium on shock held at the University of South Dakota.

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MEDICAL SCHOOL  
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Participants in the coronary care workshop held at the School of Medicine in Vermillion include **V. K. Cutshall, M.D.**, Sioux Falls, **Dorence Ensberg, M.D.**, Sioux Falls, **Warren Jones, M.D.**, Sioux Falls, **C. S. Roberts, M.D.**, Brookings, and **Joseph D. Welty, Ph.D.**, Vermillion.

\* \* \*

**Professor C. J. McDonald**, Sioux Falls, spoke on the Custer campaign at the third annual Dakota History Conference held at the Karl E. Mundt Library on the Dakota State College campus at Madison.

\* \* \*

The South Dakota Academy of General Practice and the South Dakota OB-GYN Society will again present another Black Hills Seminar at the Howard Johnson Motor Lodge in Rapid City, August 20, 21. Make plans to attend. Reservation forms to be mailed soon.

\* \* \*

**Dai Park, M.D.**, **B. O. Lindbloom, M.D.** and **J. T. Cowan, M.D.**, all of Pierre were elected president, vice president and secretary-treasurer, respectively, for the Pierre District Medical Society.



The Student American Medical Association of the University of South Dakota School of Medicine held its annual banquet April 3 at the Ramada Inn in Sioux Falls, South Dakota. The featured speaker for the evening was Dr. J. Jerome Wildgen of Kalispell, Montana. He is the President-elect of the American Academy of General Practice. The subject of his address was "A Day in the Life of a Family Physician."

Following the speech, various scholarships and awards were presented by Dr. George Knabe, Dean of the School of Medicine. The awards and their recipients were the Huron Clinic Scholarship, Mark Bean of Council Bluffs, Iowa, and Thomas Burkhardt of Dell Rapids, South Dakota; Christian Peter Lommen Scholarship, Todd Biegler of Sisseton, South Dakota; Fred Kreiser Memorial Scholarship, Jerrol Noller of St. Peter, Minnesota; Jason E. Payne Scholarship, L. Dana Peterson of Northfield, Minnesota, and Thomas Lawrence of Kalispell, Montana; Edwin H. Shaw Scholarship and Pfizer and Company Scholarship, Stephen Calhoon of Rapid City, South Dakota; South Dakota State Medical Association Scholarship, Donavon Albertson of Madison, South Dakota; Baughman Award, June Heilman of Sioux Falls, South Dakota; William Edwards Memorial Scholarship, David Hoversten of Miller, South Dakota; George T. Jordan Memorial Scholarship, Wayne Peters of Rapid City, South Dakota; Dr. A. A. and Kathryn H. Jordan Scholarship, Walter Baas of Kimball, South Dakota; Dr. J. A. Kittelson Scholarship, Medical Faculty Award, Roche Laboratory

Award, and Upjohn Dean's Award, David Nordin of Edina, Minnesota; Thomas Y. Nakao Scholarship, Patricia Wirtz of Watertown, South Dakota and Anita Robinson of Sagle, Idaho; Allen T. Sterling Award, Thomas Lawrence of Kalispell, Montana; Yankton Clinic Awards, L. Dana Peterson of Northfield, Minnesota and Terry Perkins of Santa Barbara, California; Mosby Book Awards, Thomas Burkhardt of Dell Rapids, South Dakota, Terry Perkins of Santa Barbara, California, Jerrol Noller of St. Peter, Minn., Wayne Peters of Rapid City, South Dakota, and David Hoversten of Miller, South Dakota; Women's Auxiliary of the Student American Medical Association Awards, Richard Lucas of Sisseton, South Dakota, David Rothenberger of Sioux Falls and Paul Wright of Vale, South Dakota; Vermillion Medical Group Award, Terry Perkins of Santa Barbara, California; and the David Eyres Memorial Award, Warren Opheim of Sioux Falls, South Dakota.

Special representatives present to assist with the awards were Mrs. Richard Lillard of Watertown, daughter of the late Dr. Baughman, and Spencer Glenn, Medical Services Liaison of the Upjohn Company.

The scholarships and awards are based on scholarship and are presented to the outstanding members of the Freshman and Sophomore classes.

The Sioux Falls City Commission has named **H. O. Kittelson, M.D.** as city health officer. He succeeds N. E. Wessman, M.D. who died in February.

**H. L. Saylor, M.D.,** Huron, was presented the physician's award of the President's Committee on Employment of the Handicapped by Governor Richard Kneip.

\* \* \*

Three guest lecturers were scheduled for Friday, April 16, at the University of South Dakota School of Medicine. At 9:00 a.m., Dr. Austin L. Vickery gave a talk on "Selected Aspects of Thyroid Pathology." He is a Pathologist at Massachusetts General Hospital and an Associate Professor of Pathology at the Harvard Medical School.

At 10:00 Dr. Norman L. Somerson presented a talk entitled "Immune Response to **Mycoplasma pneumoniae** Antigens." Dr. Somerson is with the Departments of Medical Microbiology and Pediatrics at The Ohio State University. He spoke to the Pathology Department.

Dr. William S. Wadsworth spoke at 4:00 p.m. to a Biochemistry Seminar. The title of the presentation was "Chemistry of Phosphate Esters: High Energy Bonds." Dr. Wadsworth is a Professor of Chemistry at South Dakota State University at Brookings.

\* \* \*

**Bruce Lushbough, M.D.,** Brookings, spoke at a meeting of the Brookings Rotary Club on heart disease and cardiovascular disorders.

\* \* \*

**F. D. Leigh, M.D.,** Huron, participated in a panel discussion on drug abuse held at the Huron High School.



## AMERICANS SPENDING MORE FOR HEALTH

Expenditures for health care in the United States increased by \$7.3 billion from 1969 to 1970, according to Social Security Administration statisticians. The fiscal 1970 health bill came to \$67.2 billion or seven percent of the gross national product, according to the January issue of "Social Security Bulletin." For the first time in recent years, private expenditures for health care showed a greater increase than that of the public — 13.8 percent compared with 9.7 percent increases. Spending for physicians' services increased 9.5 percent to \$12.9 billion.

### PROOF OF THE PUDDING

To back up the profession's claims that American medicine is today the finest in the world, Dr. Tom E. Nesbitt, president of the Tennessee Medical Association, wrote recently in the TMA JOURNAL: "It is imperative to involve ourselves individually in a long-term program of continuing our own medical education . . . Secondly, we must be willing to subject our own medical decisions and care (and those of our colleagues) to ever-closer scrutiny than we have been doing through our hospital and medical society committee structure — which will now become known as peer review . . ."

### MORE DRUGS FOR YOUR MONEY

The prices of unit-doses of ethical drugs have actually decreased eight to 10 percent since 1960, according to Dr. John M. Firestone, professor of economics at City College of New York and former consultant to the Federal Bureau of Labor Statistics. The price of the average prescription has increased from \$3.22 to \$3.86 in the past 10 years, but these high prices reflect greater numbers of doses in the package, he said.

### AAP GUIDELINES FOR CHILD HEALTH CARE

In a recent policy statement, the American Academy of Pediatrics reiterated its support for the concept that every American child has the right to receive high-quality, comprehensive health care "regardless of his social status, area of residence, or economic position." The Academy statement emphasized that primary attention should be given to the development of a national health plan for children "because improving the health of children and youth is a corridor to better health for the entire population."

## DENTISTS DISPLEASED WITH "MEDICREDIT" PLAN

Dentists are unhappy with the American Medical Association's Medcredit plan for national health care, the president-elect of the American Dental Association said recently. In addressing the Georgia Dental Association, Dr. John M. Deines of Seattle said that the Kennedy plan for national health insurance includes provisions for dental care of children through age 15, while the AMA's proposal has no provisions for dental services.

### PERSONAL HEALTH CHARGES

Personal health care expenditures in the United States from all sources amounted to \$52.6 billion, according to a report in the July SOCIAL SECURITY BULLETIN. About one-fourth of this total was spent for the aged, who make up only a tenth of the population. For each aged person, the average medical bill amounted to \$692, with an out-of-pocket outlay of \$163. The average medical bill for persons under age 65 was \$210, nearly half of which came directly out of the individual's pocket.

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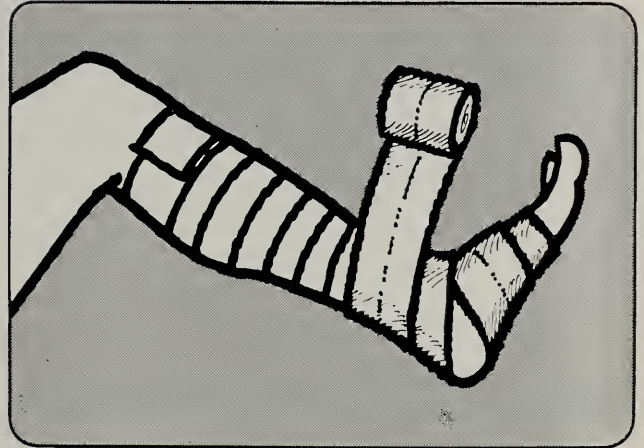
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**WARNINGS:** *Use in children:* In infants and children particularly, antihistamines in overdosage may produce convulsions and death.

**PRECAUTIONS:** Administer with care to patients with cardiac or peripheral vascular diseases or hypertension. Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness such as driving an automobile, operating machinery, etc. Patients receiving antihistamines should be warned against possible additive effects with CNS depressants such as alcohol, hypnotics, sedatives, tranquilizers, etc.

**ADVERSE REACTIONS:** Adverse reactions to Dimetapp Extentabs may include hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis and thrombocytopenia; drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, hypotension/hypertension, headache, faintness, dizziness, tinnitus, incoordination, visual disturbances, mydriasis, CNS-depressant and (less often) stimulant effect, anorexia, nausea, vomiting, diarrhea, constipation, and epigastric distress.

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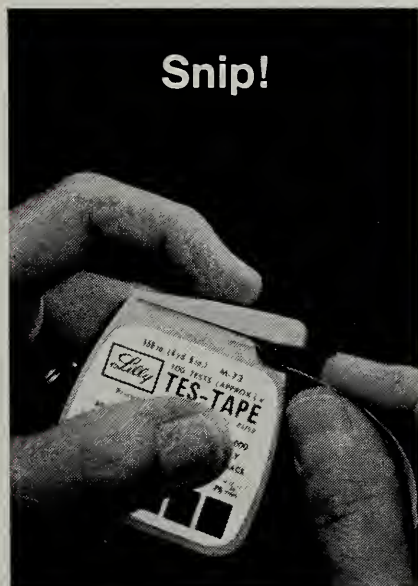
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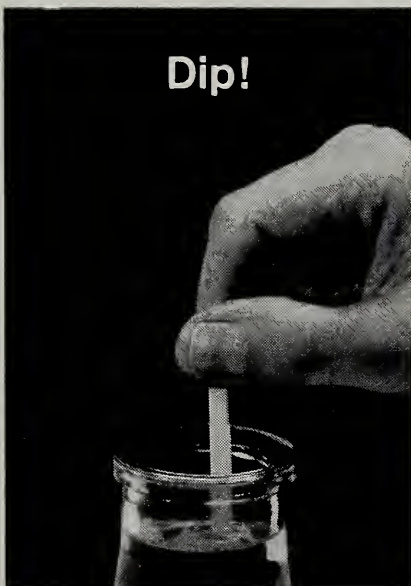
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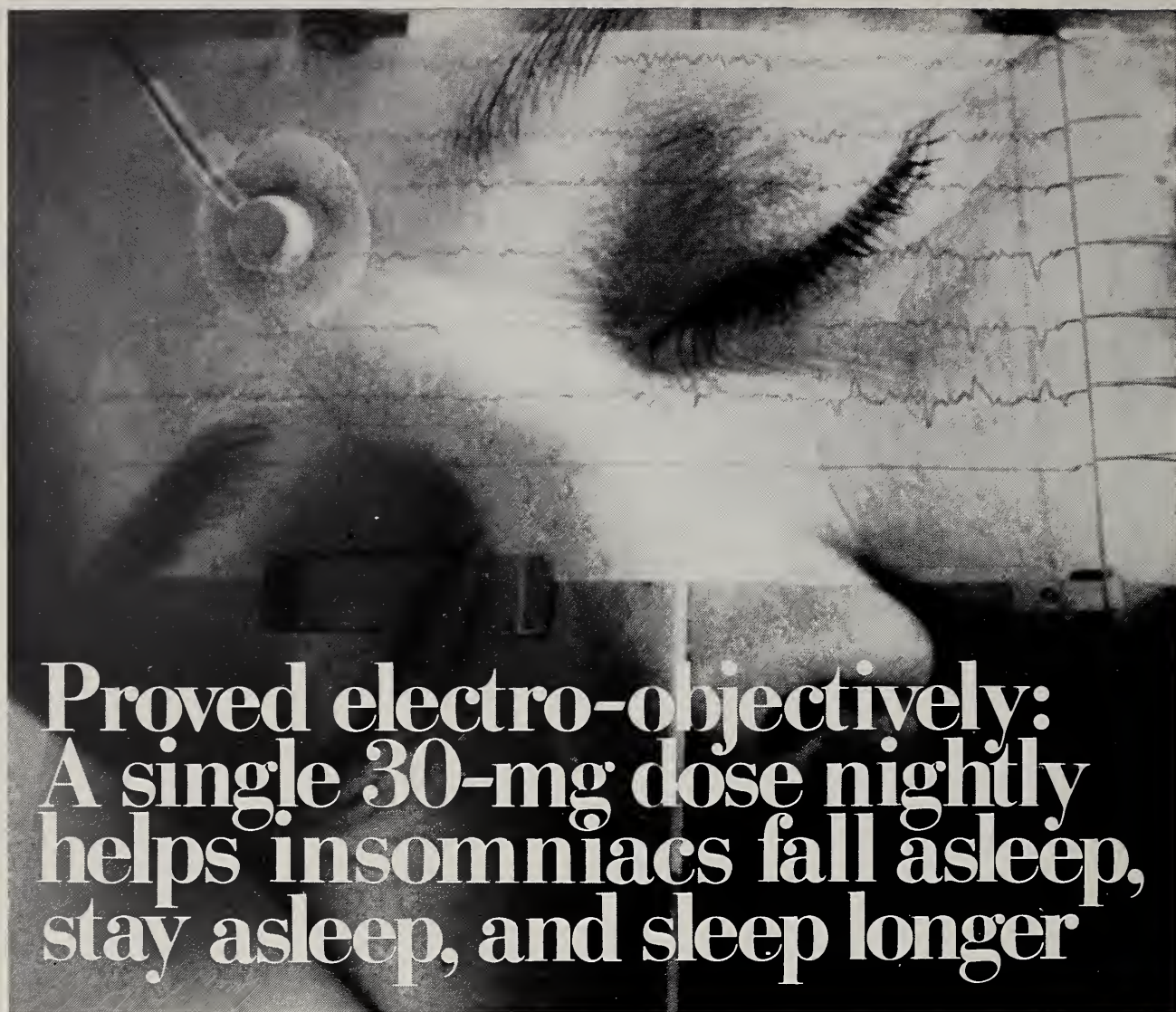


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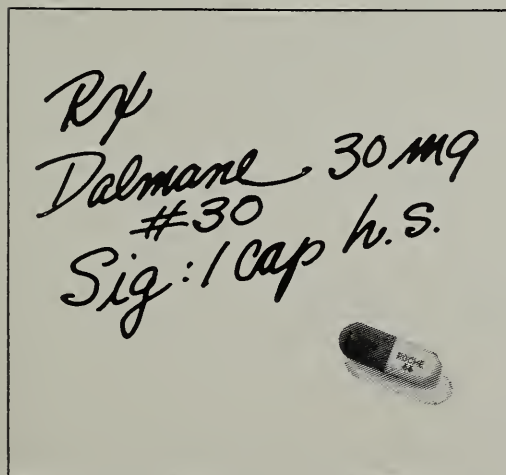
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# CONTENTS

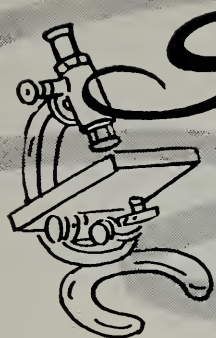
Volume XXIV

June 1971

Number 6

Sex Education and Family Planning Advice by South Dakota Doctors II. — Family Planning Advice . . . . .	5
Brooks Ranney, M.D.	
Pulmonary Coccidioidomycosis Fourth Article in Series . . . . .	12
S. Sochocky, M.D., F.C.C.P.	
Editorial: A Tornado Warning Mechanism for Isolated Communities, Farms and Ranches . . . . .	15
J. B. Gregg, M.D.	
President's Page . . . . .	16
Clinicopathological Conference . . . . .	21
This Is Your Medical Association . . . . .	27
Letter to the Editor . . . . .	29
Council Meeting Minutes . . . . .	31





# Scientific

# PAPER

## SEX EDUCATION AND FAMILY PLANNING ADVICE BY SOUTH DAKOTA DOCTORS

### II. Family Planning Advice

Brooks Ranney, M.D.\*

#### Introduction:

This is the second in a series of two articles reporting the findings of a "Questionnaire Concerning Family Planning Advice and Sex Education," which was sent to all South Dakota doctors during 1970. The first article contained information concerning sex education in South Dakota.<sup>1</sup> This article will report the answers received from South Dakota doctors concerning their family planning advice and counsel to their patients.

In 1798, an economist, Thomas Robert Malthus, predicted that unchecked population would outrun subsistence, by algebraic progression, because the "natural" methods of population control — war, famine, and disease—would gradually come under the preventive control of man, and the exploding population would eventually outrun space and subsistence.

Discouragingly, human attrition from war still continues, but its dent in the burgeoning mass of population is less than that produced by the automobile! Because of better communication, and transportation of foods, deaths from regional famines are much less than formerly, though malnutrition may still contribute to infertility. However, death and infertility caused by the greatest of all "natural" population controllers, **disease**, have been brought under such effective control, primarily by the medical profession, that world population has doubled during the past twenty years to its present overpopulated level of more than 3½ billion, and, at

present growth rates, it is estimated that it will double again and redouble before the turn of the century. As a result, there are really no new, habitable lands into which new masses of people can move; and though we, in South Dakota, are not overcrowded, no region is "an island unto itself." In this day of rapid communication and transportation, we cannot escape the results of over-population in much of the United States and the world.

Several other factors have changed. For our grandfathers, many children were an economic advantage, to help with chores and till more land. Now they are an economic burden, to be fed, clothed, and educated. For our pioneer grandparents to derive four or five adult children, because of infant deaths and childhood disease, the mother often had to be delivered of eight or ten babies. Now most children live to become 75 years old, or more, and remain not only healthy, but also fertile, many of those years.

To close this introduction on a more personal and basic note, most women of all races, creeds, and colors, being somewhat closer to the physiology of reproduction than are most men, would instinctively like to have children of their own. Just as instinctively, most women do not wish to be "brood mares," but would choose to have a small number of babies, whom they could nurture, love, enjoy, educate, and train to be effective, contributing citizens of this country and the world. They are right. There is evidence that uterine physiology of labor and delivery become less efficient after a third pregnancy.<sup>2</sup> Also, ob-

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stetric complications, maternal mortality, fetal and neonatal complications, and mortality are higher than average among young mothers, before age 20, and increase markedly in grand multipara, and after age 35.<sup>3</sup>

In order to learn the habits of South Dakota's practicing physicians concerning these problems, questionnaires were sent to each doctor and osteopath listed in the directory of the South Dakota State Medical Association; 524 questionnaires were mailed; 235 were returned (44.8%) (See Table I.).

**Table I**

Doctors Who Returned Questionnaires Concerning Sex Education & Family Planning

Type of Practice	No. of Doctors Listed in the State Medical Directory	No. of Doctors Who Returned the Questionnaires	Percent of Questionnaires Returned
Obstet.-Gynecol.	15	14	93.3
Generalist—OB-G.	18	11	61.1
Pediatrician	20	12	60.0
Surgeon	46	21	45.6
Generalist—Surg.	36	15	41.7
Internist	37	15	40.5
Generalist	210	82	39.0
Osteopath	36	12	33.3
Other Specialists*	126	53	42.0
Totals	524	235	44.8%

\*Urologists—5; Orthopedists—5; Ophthalmologists—6; Otolaryngologists—2; Dermatologists—3; Neurologists and Neurosurgeons—3; Psychiatrists—7; Pathologists—8; Radiologists—12; Anesthesiologists—2.

The percentages tabulated in the right column of Table I show that (1) obstetrician-gynecologists, (2) generalists who tend to limit practice to obstetrics and gynecology, and (3) pediatricians indicated the greatest interest in sex education and family planning, for obvious reasons. Questionnaires from these groups were usually answered in more specific detail. However, many questionnaires from surgeons, internists, generalists, and osteopaths were carefully answered in a manner which indicated long experience and active interest concerning these subjects. Only two questionnaires from the other specialists\* (2 psychiatrists) were answered in detail, but the fact that 53 other specialists bothered to return the questionnaires indicated more than a passing interest in the subjects.

#### DO SOUTH DAKOTA DOCTORS PROVIDE THEIR PATIENTS FAMILY PLANNING ADVICE, COUNSEL, AND SERVICES?

It is apparent from Table II that all reporting doctors who deal regularly with the problems of fertility (obstetrician-gynecologists; generalists who tend to limit practice to obstetrics and

gynecology) provide family planning advice, counsel, and service for their patients. Large majorities of generalists, osteopaths, internists, and generalists who tend to limit practice to surgery, also provide family planning services; likewise, large minorities of surgeons and pediatricians. As would be expected, few of the other specialists have direct contact with the problems of fertility, and only about 10% report providing this service.

**Table II**

Do Doctors Provide Patients With Family Planning Advice, Counsel and Service?

Type of Practice	No. of Reporting Doctors	DO Provide Service		DO NOT Provide Service	
		No.	%	No.	%
Obstetrician-Gynecologist	14	14	100.0	0	0
Generalists—Ob.-G.	11	11	100.0	0	0
Generalists	82	77	93.9	5	6.1
Osteopaths	12	11	91.6	1	3.4
Internists	15	12	80.0	3	20.0
Generalists—Surg.	15	10	62.7	5	37.3
Surgeons	21	9	42.9	12	57.1
Pediatricians	12	5	41.7	7	58.3
Other Specialists	53	5	9.4	48	90.6
Totals	235	154	65.5	81	34.5

#### WHAT TYPES OF ADVICE OR DEVICE DO DOCTORS PRESCRIBE?

All but 10 reporting doctors who prescribe contraception utilize "birth control pills" (progestins) much more commonly than all other methods (Table III), because of their nearly 100% effectiveness and at least 95% patient-acceptability. A very small number of women have physiologic evidence of relatively poor pituitary function, and should not be started using progestin pills. Also, probably less than 5% of women who are using progestins derive minor, but annoying physiologic side reactions, such as fluid retention in the tissues, weight gain, spotting bleeding, or amenorrhea, mild irritability or depression, etc. For these few patients, progestins should be modified or discontinued. Unusual, moderate physiologic changes resulting from progestins, such as headaches and scotomata, mimic symptoms these same women derive from their own hormones at certain times in the menstrual cycle, or during pregnancy. These women probably should use other methods of birth control if the symptoms are persistent or severe. However, there is no evidence connecting progestins with cancer in humans, and deep phlebothrombosis (if it occurs at all with present-day small dosages of the progestins) is so extremely rare that its existence is questioned. Regular contraceptive "pill"-taking has been variously calculated to be in-



finitely safer than moderate to heavy smoking, 10 times safer than riding in or driving an automobile, and about 10 times safer than another pregnancy — providing the patient is examined by her doctor each year, and providing the “pills” are temporarily discontinued and the pituitary gland is permitted to function, every several years, for a few months, so that the patient has two or three menses in sequence in response to her own hormones.

Table III

**Family Planning Advice or Device Prescribed  
(Among 154 Reporting Doctors)**

Classification	Number of Doctors Reporting Use
Progestin “pills”	144
“Rhythm”	74
Vaginal diaphragm with jelly	68
Condom for husband; jelly for wife	46
Intrauterine device	38
Sterilization (vas ligation for husband, or tubal ligation for wife)	7

For occasional couples who choose not to use more effective methods, “Rhythm” is still occasionally explained and advised by about half of the reporting doctors. Unfortunately, this method is least likely to be effective for the most highly fertile couples, who need it most, probably because the male sperm in those families remains effective within the female for 5 to 7 days after coitus. Even when this factor is taken into consideration and coitus is interdicted, except during the last week of each cycle before anticipated menses, one late ovulation per year would allow a pregnancy to occur each year. Supplementation of the calendar with a basal temperature chart, to pinpoint the time of ovulation does improve results, if a woman can be taught to properly evaluate the temperature curves. However, sexual restrictions imposed by “Rhythm” are too rigid for most families, and they often cause severe family tensions and sequelae.

There is no foam, cream, jelly, or suppository which, when used alone in the vagina, can be considered more than about 80% effective. However, this is probably better than most families could expect from “Rhythm” alone.

For mature couples, the vaginal diaphragm, used with contraceptive jelly, is fitted for the wife by almost half of the doctors. This is a good method for women who should not use progestin pills, and if properly fitted, and always used, its effectiveness approaches 98%, but it is almost impossible to be sure of proper application of a diaphragm in the 20% of women who have retrodisplaced uteri. In such instances,

the husband can use a rubber condom, and his wife, contraceptive lubricant. If always used, this combined method approaches 100% effectiveness. Likewise, the condom is a satisfactory temporary method of birth control to be used by the husband if his wife has forgotten her “pill,” or if she is taking a 2 - 3 month rest from “pills.” Some families find the condom satisfactory as a regular method of birth control, but other males object to its regular use.

About one-fourth of the reporting doctors occasionally insert an intrauterine device into the uterus. No questions were asked about the complication rate, which approaches 25%, and includes fall-out, cramping, spotting, hypermenorrhea with secondary anemia, endometritis, pelvic inflammatory disease, perforation of the uterus, intestinal obstruction, and superimposed intrauterine pregnancy, or ectopic pregnancy. No doubt, patients who are using intrauterine devices are followed closely by their physicians.

Seven doctors volunteered the information that they (and probably many other doctors) advise sterilization for mature couples who have had their children. This should be considered a permanent, rather than temporary, form of birth control, since it is rarely reversible. Tubal

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ligation in the female requires a major operation. Vas ligation in the male is a minor operative procedure, and, therefore, is preferable, unless other factors modify evaluation.

**WHICH PATIENTS RECEIVE FAMILY PLANNING ADVICE?**

Reporting doctors were asked to indicate which of several groups of patients they provided with family planning advice, counsel, and services. The results of their answers are listed in Table IV. (Because this question was particularly difficult to answer, a few reporting doctors left it blank, so the numbers in Table IV are less than true values, but relative amounts are probably representative.)

**Table IV**  
**Which Patients Receive Family Planning Advice**  
**(Among 154 Reporting Doctors)**

Groups of Patients	Number of Doctors Who Offer Advice
1. Postpartum mothers; one, two, or three months after delivery	140
2. Other married women who plan to postpone or discontinue child-bearing	132
3. Newlyweds who plan to postpone child-bearing	124
4. Soon-to-be-married girl; during premarital exam	113
5. Unmarried teen-age mother; during postpartum exam	27
6. Unmarried teen-age girl, seeking advice but not planning marriage	10

**PREMARITAL EXAMINATIONS:**

The certificate, which is signed by the physician, and which is required for each applicant for a marriage license in South Dakota, states,

rule out the presence of early venereal diseases, which would not be discovered by routine serological tests, the doctor who sees a premarital couple has the professional responsibilities:

- 1) to evaluate and advise concerning the general health of the two patients;
- 2) to make any, necessary, minor modifications in sexual anatomy;
- 3) to offer the couple advice not only concerning sexual relationships and adjustments, but also concerning many related subjects; and
- 4) to offer the couple advice concerning family planning.

Doctors were asked if they performed physical examinations during premarital exams. Answers varied: some doctors examine both partners; some see only one partner and examine him or her; some see both, but examine only the woman; some offer examination, but do not urge it; some only examine when specifically requested; some never examine; some did not reply; for many of the specialists this type of patient is seldom, if ever, seen. Because of this variation in answers, it was only possible to tabulate information concerning examination of women, premaritally (Table V.)

All reporting obstetrician-gynecologists examine their female premarital patients. So do most generalists who concentrate on obstetrics and gynecology, and most internists. Similarly, a slight majority of generalists, and generalists who concentrate upon surgery.

In spite of so-called modern "sexual free-

**Table V**  
**Is a Physical Examination Performed on All Female Premarital Patients?**

Type of Practice	No. of Report- ing Doctors	DO Examine		DO NOT Examine	No Answer
		No. of Drs.	Per- cent		
Obstetrician- Gynecologists	14	14	100.0	0	0
Generalist—OB-G.	11	8	73.7	2	1
Internists	15	9	60.0	3	3
Generalists	82	44	53.6	35	3
Generalists—Surg.	15	8	53.3	4	3
Surgeons	21	8	38.1	3	10
Osteopaths	12	3	27.2	8	1
Pediatricians	12	1	8.3	0	11
Other Specialists	53	2	3.4	0	51
Totals	235	97	41.3	55	83

in part, "This is to certify that I have examined the person named in the above laboratory record and . . . . . ." Besides the legal responsibility to examine for, and to

doms," 59 doctors reported that they have found it to be necessary to dilate hymenal rings for female premarital patients. Twenty-eight doctors reported that they had to perform hymen-



otomy or perineotomy for premarital patients, during the past year, and 11 doctors reported excising vaginal septa for premarital patients (Table VI).

Table VI

**Doctors Reporting Minor Surgical Corrections For Female Premarital Patients**

Type of Operative Procedure	Number of Doctors Reporting
Dilation of Hymen	59
Hymenotomy or Perineotomy	28
Excision Vaginal Septum	11

While giving advice to premarital patients, 95 doctors reported that they usually include advice concerning the differing sexual responsiveness of each sex.

**WHEN DO DOCTORS TAKE THE INITIATIVE IN DISCUSSING THE SUBJECTS OF FAMILY PLANNING AND CHILD SPACING WITH THEIR PATIENTS?**

Only the reporting obstetrician-gynecologists

However, a majority of doctors do advise their patients that the best interval of time between babies is between 2 and 2½ years (Table VIII).

Table VIII

**What is the Best Interval of Time Between Babies?**

Time Interval	No. of Doctors Advising
One and one-half years	10
Two years	69
Two and one-half years	36
Three years	17
No advice given	103

**WHICH YEARS IN A MOTHER'S LIFE ARE SAFEST FOR BEARING CHILDREN?**

This question was asked of all doctors. Among 235 reporting doctors, 107 stated that they offer no advice to the patients (many are not consulted concerning this). Most of the remaining doctors recommend the years 20 to 35 for child bearing, although a fairly large number would suggest that age 18 is a safe age to start having babies (Table IX).

TABLE VII

**Doctors Initiate Subject of Family Planning and Child Spacing**

Type of Practice	Number of Reporting Doctors	Number of Doctors Who Initiated Subject				
		Pre-marital	Newly-wed	After 1 Baby	After 2 Babies	After 3 Babies
Obstetrician - Gynecologists	14	14	14	14	14	14
Generalist — OB.-G.	11	6	5	4	8	9
Generalists	82	41	43	31	41	48
Generalists — Surg.	15	5	5	6	7	10
Internists	15	1	9	7	7	9
Osteopaths	12	4	4	3	4	4
Surgeons	21	4	4	2	1	1
Pediatricians	12	1	1	1	0	1
Other Specialists	53	2	2	0	0	0
Totals	235	78	87	68	82	96

regularly take the initiative in discussing family planning and child spacing with **all five** categories of patients listed in Table VII. About half of the generalists and internists also do so, though there is some tendency not to initiate such discussion for newlyweds or for women who have just had their first babies.

It is apparent that the surgeons, pediatricians, and other specialists rarely advise patients concerning child spacing because the patients rarely consult with them concerning this and related subjects.

**WHAT IS THE BEST INTERVAL OF TIME BETWEEN BABIES?**

Almost half of the answering doctors stated that they offer no advice to mothers concerning the optimum interval of time between babies. (Many of these doctors have no opportunity!)

Table IX

**Safe Years for Bearing Children**

Mothers' Ages	Respective Number of Doctors Recommending		
	Safe year to start bearing children	Safe year to stop bearing children	No Advice
16 - 17	16		
18 - 19	51		
20 - 21	56		
22 - 23	3		
24 - 25	2		
26 - 27		6	
28 - 29		9	
30 - 31		15	
32 - 33		14	
34 - 35		76	
36 - 37		3	
38 - 39		3	
40 - 41		2	
Totals:	128	128	107



## DISCUSSION:

It has been calculated that a reproductive rate of between 2.1 and 2.9 babies per family would result in a stable population for the United States. (These rates probably take into consideration the 12% of infertility couples, but probably do not consider those people who never marry.) The variation in rates depends upon disease and death rates of various regions. For instance, in our central cities (such as Harlem, in New York), where few girls seek prenatal care, maternal and perinatal mortality rates are high, and diseases often cause early infertility and death, a reproductive rate of 2.9 children per family would be needed to maintain a stable population. Conversely, in South Dakota, where 97.79% of pregnant patients seek and receive some form of prenatal care,<sup>4</sup> maternal and perinatal mortality rates are among the lowest in the nation, health and fertility are high, and 68.5 percent of people live to be 65 or older,<sup>5</sup> a reproductive rate of about 2.2 children per family should maintain our population. Such calculations probably do not evaluate effects of migration, but they probably do include the rather high and increasing rate of live births out of wedlock.<sup>5, 6</sup> (Table X).

Table X

### Live Births Out of Wedlock in South Dakota

South Dakota 1969	White	567
Live Births	Non-white	416
Out of Wedlock	Total	983
South Dakota 1969 total births:		11,441
South Dakota; Legitimacy Yr. 1969		First 6 mo. 1970
Births in wedlock	91.8%	91.5%
Births out of wedlock	8.2%	8.5%

Table X presents statistical evidence of the need for additional sex education and family planning advice for certain segments of South Dakota's population.<sup>1</sup>

It is apparent from Table XI that almost two-thirds of the first babies born to non-white mothers of South Dakota are delivered when the mothers are between the ages of 12 and 19; likewise, one-fifth of second babies and one-twentieth of third babies. The percentages for white mothers are less than half of these amounts, but are still sizable. These figures indicate that fairly large numbers of South Dakota mothers start reproduction before they are physiologically or psychologically mature, creating physical and psychologic family problems which could be preventable. Obstetric and perinatal complications are more common among

these immature mothers and their babies.<sup>3</sup> In addition, girls who start having babies while still so young are likely to have a larger number of babies, further aggravating the population problem.

Table XI also shows that almost a third of white grand multipara, and almost a fourth of non-white grand multipara, having 4th to 17th babies were over age 35. Obstetric and perinatal complications are progressively much more frequent after age 35;<sup>3</sup> therefore, most women should complete their families before age 35 (Table XI).

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Table XI

**South Dakota Live Births by  
Race and Age of Mother**

(Adapted from South Dakota Public Health  
Statistics - 1969)

(See Bibliography)

White Mothers	Number Born	Percent of Babies Born to Re- spective Age Groups of Mothers		
		12 to 19	20 to 34	35 & over
1st baby	3,693	31.7%	67.5%	0.8%
2nd baby	2,580	7.4%	90.6%	2.0%
3rd baby	1,525	0.9%	93.3%	5.8%
4th to 17th baby	2,357	0.2%	69.2%	30.6%
<b>Non-white</b>				
<b>Mothers</b>				
1st baby	336	61.9%	36.3%	1.8%
2nd baby	265	20.7%	77.8%	1.5%
3rd baby	174	4.6%	94.2%	1.2%
4th to 17th baby	510	0.4%	75.7%	23.9%

From the foregoing statistics it is apparent that, whereas many South Dakota doctors give excellent family planning advice and counsel to their patients, still a sizable minority of patients are not receiving good preventive medical care in this regard, or are not following their doctors' advice. The premarital exam is a good place to start education concerning family planning, and the initial education may be supple-

mented with ease and minimal expenditure of professional time during yearly physical examinations, or during prenatal or postpartum visits to the doctor. This places most of the educational burden concerning family planning logically in the hands of those doctors who are performing most of the obstetrics and gynecology. However, all doctors should feel a fundamental responsibility concerning this uniquely professional combination of teaching and preventive medical practice.

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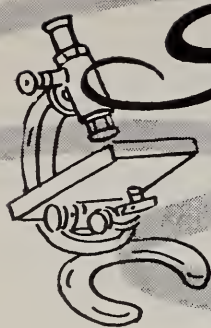
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# Scientific

# PAPER

Fourth Article in Series

## PULMONARY COCCIDIOIDOMYCOSIS

by

S. Sochocky, M.D., F.C.C.P.\*

### Introduction:

Coccidioidomycosis is a granulomatous infection caused by fungus *Coccidioides immitis*.

Coccidioidomycosis was first reported by Posadas and Wernicke<sup>1</sup> in an Argentine soldier in 1887. Dickson and Gifford,<sup>2</sup> in 1936, established that coccidioidomycosis and "valley fever" are the same disease.

### Epidemiology:

*Coccidioides immitis* is a biphasic fungus and exists as a saprophyte in soil forming arthrospores and chlamydospores. *Coccidioides immitis* thrives in a hot, dry season, followed by rainfall. The dust containing spores in endemic areas is most likely the principal source of infection. Coccidioidomycosis is endemic in southwestern United States including California, southern Nevada, Utah, Arizona, New Mexico and western Texas with extension into northern Mexico. Some endemic areas are present in Central and South America. Birsner,<sup>3</sup> in 1954, estimated that 25,000 - 35,000 cases of coccidioidomycosis occur annually in California. Fiese<sup>1</sup> reported 1,566 disseminated cases in California between 1903 and 1954 and 2,242 disseminated and benign were reported from Arizona between 1942 and 1946.

According to Smith<sup>4</sup> and others transmission of infection from one human to another does not occur. Eckmann, Huppert and Schaeffer<sup>5</sup> reported six cases of coccidioidomycosis in patients who contracted this infection from a pa-

tient hospitalized with a draining coccidioidal sinus.

Any person exposed to dust or soil in endemic regions for coccidioidomycosis is liable to infection. Dark skinned race is more susceptible to coccidioidomycosis than white which occurs about 20 - 30 times more often. The highest incidence of coccidioidomycosis occurs between 20-30 years, less common after 60. Coccidioidomycosis occurs more frequently in males, ratio more than 4:1. In 614 cases reported by Alvis Greer,<sup>6</sup> 90 per cent were indoor workers and 86 per cent were members or veterans of armed forces.

*Coccidioides immitis* produces primary infection of lungs by inhalation, consisting of an infection of lung parenchyma and regional lymph glands. Primary infection is usually benign and subsides, however, may progress and spread by bronchial route throughout other parts of lungs causing chronic form which may remain unchanged for several years.

### Case history:

A 43 year old male contracted coccidioidomycosis in Arizona in 1966. Chest film at that time showed a bronchopneumonic infiltration in left lung. He remained well but subsequent chest film showed residual densities in left lower part of lung which have remained negative since. (See Figures 1 and 2).

Progressive form may follow primary form or may become apparent later after interval of several months. During or following primary infection, dissemination of disease may occur but rarely after first year following infection. Almost any system of the body may be invaded, usually skin, subcutaneous tissues, liver, kidneys or adrenals.

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### Clinical Manifestations:

Symptoms and signs depend on type and stage of infection. Symptoms of primary pulmonary coccidioidomycosis may resemble upper res-

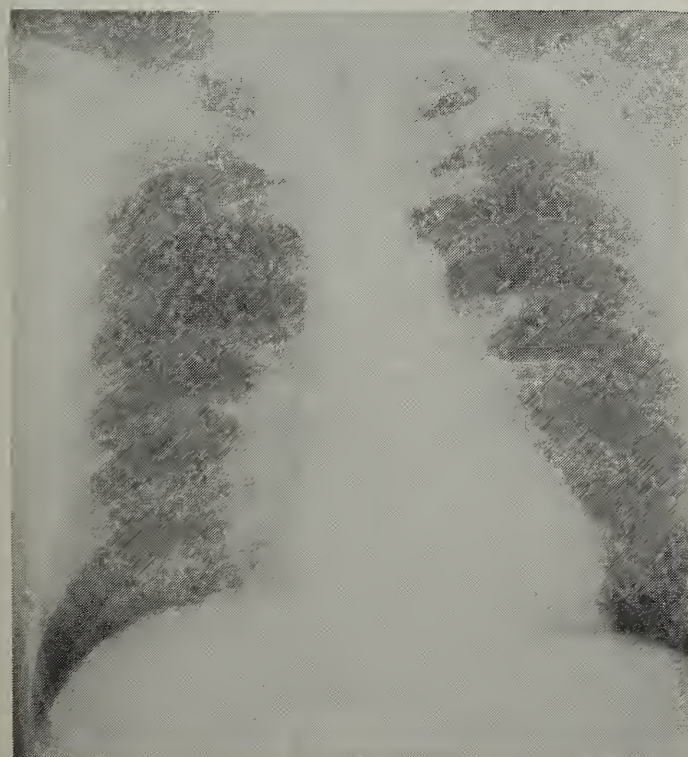
**Figure 1**



Chest film 9.1.67 shows a density in the middle portion of left lung.

piratory infection, or there may be none. Incubation period is up to three weeks. Symptoms of progressive form of coccidioidomycosis in lungs depend on extent of involvement of

**Figure 2**



Chest film 7.8.70 shows no changes.

lungs. In severe form there may be constitutional symptoms as fever, general malaise, loss of weight and chest symptoms usually present. In disseminated form there also may be general symptoms, and signs of affected system may be present. Benjamin Winter<sup>7</sup> et al. described acute tracheal obstruction due to coccidioidal granuloma of the trachea in a child of 2½ years. Clyde L. Olson<sup>8</sup> described a case of conjunctivitis in a boy of 12 which has been proven by biopsy. The cutaneous lesions are present in disseminated forms, the commonest are erythema nodosa, erythema multiforme, ulcers, subcutaneous abscess and granulomatous lesions of skin. Disseminated coccidioidomycosis may affect bones, joints and produce pain, swelling or chronic osteomyelitis. Gastrointestinal symptoms may also be present, as dysphagia, nausea, vomiting or diarrhea. Signs and symptoms of genitourinary system in male may be present as large, indurated epididymis, swelling of testis, enlarged prostate and draining sinus of scrotum.

### Radiological Findings:

There are no pathognomonic radiological findings in coccidioidomycosis. Chest film most often shows an infiltration, localized or diffuse, pneumonic shadows, lymph adenopathy and cavitations. In series of 206 cases of Alvis Greer,<sup>6</sup> infiltration, localized or diffuse in 121, pneumonic consolidation in 62, lymph adenopathy in 50, cavitation in 44, pleural effusion in 8 and calcification in 5. Single cavity was more frequent than multiple and predominantly in right lung. Cavities were usually thin walled.

### Pathology:

Coccidioidomycosis is a granulomatous infection and main lesions are granulomas of varying size. Macroscopical examination may show inflammation, caseation, cavitation or fibrosis. Microscopical examination usually reveals granulomatous inflammatory process with fibrosis, caseation, necrosis and Langhans' type giant cells with *Coccidioides immitis*.

### Laboratory Findings:

Secondary anemia usually found in disseminated coccidioidomycosis. Urinalysis may show albumin or casts. When central nervous system is involved pressure of spinal fluid is increased, cell count raised with predominantly lymphocytes and globulin may be elevated. Fungus may be cultured from spinal fluid. *Coccidioides immitis* may be cultured from sputum, gastric washings, pus and surgical specimens. Coccidioidin skin test is positive in majority of patients within first two weeks of infection.

There are two most commonly used sero-



logical tests — precipitin and complement fixation tests. The precipitin test is positive in most patients during the first three weeks and rarely found six months after infection. Progressive decrease in precipitin titer but increase in complement fixation titer carries a serious prognosis.

Complement fixation test is highly specific and is of clinical importance in diagnosis and progress of disease. A positive complement fixation test indicates presence of active infection and increasing titer shows a grave prognosis. A rising complement fixation titer reaching 1 - 30 or above signifies a serious infection or dissemination.

#### Diagnosis:

Coccidioidomycosis should be suspected in every person living in, or visiting endemic areas. Primary coccidioidomycosis should be differentiated from cold, influenza or atypical pneumonia. Progressive form should be differentiated from other granulomatous forms, blastomycosis, actinomycosis, pneumonias, tuberculosis or malignancy. History, residence, skin test, serological tests, clinical course, chest film, laboratory findings as examination of sputum, gastric washings, spinal fluid may help to reach diagnosis. Liver biopsy may also be useful in disseminated form.

#### Prognosis:

In primary, cutaneous and glandular forms of infection prognosis is good but in disseminated form is rather serious.

#### Treatment:

Treatment is medical and surgical. In primary coccidioidomycosis treatment is symptomatic. In disseminated and progressive forms of coccidioidomycosis treatment with amphotericin B is indicated. Before amphotericin B became available between 50-60 per cent of disseminated coccidioidomycosis ended fatally. Pierce Gardner<sup>9</sup> et al. described a fatal relapse of coccidioidomycosis 10 years after treatment with amphotericin B. According to Smith<sup>4</sup> reduction of complement fixation titer less than 1 - 32 during treatment with amphotericin B rarely produces a relapse. Cytotoxic and immunosuppressive agents may cause patient to be more vulnerable to progressive coccidioid infection. Carl Z. Berry<sup>10</sup> et al. described a patient with systemic lupus erythematosus treated with steroids in 1950. This patient developed disseminated form of coccidioidomycosis in 1964 and received amphotericin B and both diseases have remained in remission. Hileman<sup>11</sup> reported two cases of disseminated coccidioidomycosis in patients with rheumatoid arthritis treated with steroids over

10 year period. Ramseyer<sup>12</sup> et al. reported a patient with obstructive hydrocephalus due to coccidioidomycotic meningitis treated with amphotericin B and ventriculoventricular shunt.

Surgical treatment is indicated in patient with recurrent hemorrhage, large, infected or ruptured cavity, bronchopleural fistula, empyema or pneumothorax, which does not respond to treatment.

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The 31st Annual AMA Congress on Occupational Health will be held at Jackson Lake Lodge in Grand Teton National Park, Wyoming, August 29-30, 1971.





## A TORNADO WARNING MECHANISM FOR ISOLATED COMMUNITIES, FARMS AND RANCHES

In this era of preventive medicine physicians play an important part in helping citizens of their communities to prevent health problems. Natural catastrophes such as floods and blizzards can be foretold with a reasonable degree of accuracy and avoided by prudent persons. In the Summer severe weather systems with tornado potential can be forecast but no method is available to predict in which specific location the tornado will form and where it may touch down, possibly with devastating effect upon life and property. South Dakota is definitely in the "tornado belt" of the United States. Tornado watches and tornado warnings are now standard operating procedure as a community service by many radio and TV stations throughout South Dakota, alerting communities and individuals to the likelihood of catastrophe. Yet there is no mechanism for warning people as to the presence of tornadoes in their immediate vicinity, especially at night when the funnel cannot be seen.

In Iowa the following statistics regarding tornadoes have been compiled: 1) they have occurred every month of the year but are most common in May and June; 2) although they can occur at any hour, they are most common between 5-6 p.m.; 3) 50% approach from the southwest; 4) in an average year there are about 30 tornadoes but 50 have been reported in a single year; 5) more than 700 persons have been killed by tornadoes since 1859.

A Des Moines, Iowa, electronics engineer, Newton Weller,<sup>1, 2</sup> has devised a method for determining the presence of a tornado which is within 15-20 miles (up to one-half hour warning depending upon the speed of the storm), using a TV set or an AM radio. This technique works well regardless of whether there is a program in

progress and does not depend upon an outside antenna. It is simple and one which anyone can utilize in his home or elsewhere, provided that electrical power is available. Battery operated sets will increase the safety potential in the event of a power blackout. This detection device has been tested and used in several Iowa tornadoes in the past 4 years, notably the Orange City, Iowa, storm of September 1968 which caused over \$1,000,000.00 damage.

To detect the tornado's signal with an AM radio the radio should be tuned to the low frequency band in the neighborhood of 550 kilocycles. Lightning will cause static but a tornado will be heard as a continuous staccato noise.

To use any TV set, color or black and white, tune the set to Channel 13 and turn the brightness knob to darken the screen until it is almost black. Then turn the channel selector to Channel 2 and leave it there. Horizontal streaks across the screen or flickers of light will result from lightning discharges but a tornado will appear as a brilliant white light on the entire screen, persisting as long as the tornado is within a receiving radius of the set.

The physicians of this state can be most instrumental in disseminating information about this tornado detection system to their patients and should take the lead in this excellent public health disaster prevention service. They can also be helpful in counseling people in regard to safety measures which should be used in the event that a tornado occurs.

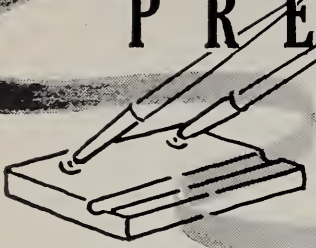
J. B. Gregg, M.D.

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# P R E S I D E N T ' S P A G E



I have heard it said that recognition is always followed by responsibility. The recognition you have given me is inspiring. The responsibility I feel at serving as your president is great indeed.

Our profession stands at a political and economic crossroads. More and more we are finding government inserting itself into the very heart of medical practice; more and more we are finding ourselves the unwilling captives of rules and regulations made without our counsel or consent. Almost every day the physician . . . and the patient . . . are finding government a third party in the traditional relationship.

As a profession, we physicians of late years have striven to make ourselves heard where the laws are made and the regulations drafted. We have been only partly successful. Now we are faced with imminent complete takeover through a national health insurance plan which threatens to reduce the practice of medicine to little more than automation with bureaucrats at the controls and reimbursement by edict.

I strongly believe that medicine must redouble its fight against these intrusions. We cannot win the war but we can at least strive to win a few battles and preserve to ourselves at least part of the decision-making process by which we are governed. Certainly we have nothing to lose by putting up a fight.

One effective avenue is public service. To my way of thinking, more doctors must make more effort to serve in positions where their voices are heard and their votes cast directly in the interest of their calling. No one can help us as effectively as we can help ourselves. And never, certainly, has there been a time when American medicine so sorely needed all the help it can get.

G. Robert Bartron, M.D., President





# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



LYNN I. DeMARCO, M.D.\*

*Internist-Discusser*

JOHN F. BARLOW, M.D.\*\*

*Pathologist-Editor*

## AN 80-YEAR-OLD CAUCASIAN MALE WITH FATIGUE AND CHEST PAIN OF TEN DAYS DURATION

### Case A-69-19

This 80-year-old Caucasian male was admitted to Sioux Valley Hospital with malaise, fatigue and pain in the upper chest.

The patient was extremely active for his age. Ten days previously he was on a hunting trip and his camper tilted causing a blow to his chest and left shoulder. There had been deep dull pain in the area of the injury which was present all the time but no substernal pain or radiation to arms or neck. There was no relation of the pain to exertion, meals or emotion. There was no history of angina, dyspnea on exertion, orthopnea, paroxysmal nocturnal dyspnea nor previous heart disease. The patient also noted fatigue and malaise over the past week prior to admission. The symptoms were not severe enough to require a call to a physician but on the morning of admission he noted palpitations which alarmed him. The patient had no previous illnesses or hospitalizations.

The review of systems was negative except for nocturia 2-3 times for several years.

**Physical examination:** Blood pressure 160/66, pulse 94/min., respirations 24/min., temperature 98.6. The patient was alert and well oriented. The head and neck were unremarkable except for Grade I arteriosclerotic changes in the fundi. The chest was clear to percussion and auscultation. There was some tenderness over the left clavicular area on pressure. The heart had a

sinus rhythm with a Grade I systolic murmur at the base. No other murmurs were heard. The abdomen showed no tenderness, masses or organs. There was moderate enlargement of the prostate with no nodular areas. There were minimal osteoarthritic changes in the hands and mild varicosities of the extremities but no peripheral edema. The neurological exam was negative.

**Clinical pathology data:** Urinalysis: straw colored, turbid; specific gravity 1.035, pH 5.0, 3+ protein; negative for glucose, ketone, hemoglobin; microscopic 2-3 leukocytes/hpf, 2-4 hyalin and 0-2 granular casts/lpf, amorphous urates. Hemoglobin 12.6 gm/100 ml., red count 4.75 million/mm<sup>3</sup>, hematocrit 40 Vol. %, mean corpuscular hemoglobin 27 micromicrograms, mean corpuscular volume 85 cubic micra, mean corpuscular hemoglobin concentration 32%. Total leukocyte count 10,500/mm<sup>3</sup> with 79% neutrophils, 6% neutrophilic bands, 12% lymphocytes and 3% monocytes. Fasting blood sugar was 136 mgs/100 ml., blood urea nitrogen 25 mgs/100 ml. A glucose tolerance curve showed fasting 116 mgs/100 ml., 30 minutes 174 mgs/100 ml., one hour 206 mgs/100 ml., two hours 288 mgs/100 ml., three hours 297 mgs/100 ml. (2+ glucosuria) and four hours 261 mgs/100 ml. (1+ glucosuria). Cholesterol was 160 mgs/100 ml., lactic dehydrogenase 370 units, sodium 132 meq/L, potassium 3.7 meq/L, chloride 86 meq/L, carbon dioxide content 28 meq/L. Admission chest film revealed the cardiac shadow to be markedly enlarged. There was moderately prominent pulmonary vascularity. There was a moderate amount of fluid in the right pleural space. An upper gastrointestinal series was negative, except for a probable gallstone. An intravenous

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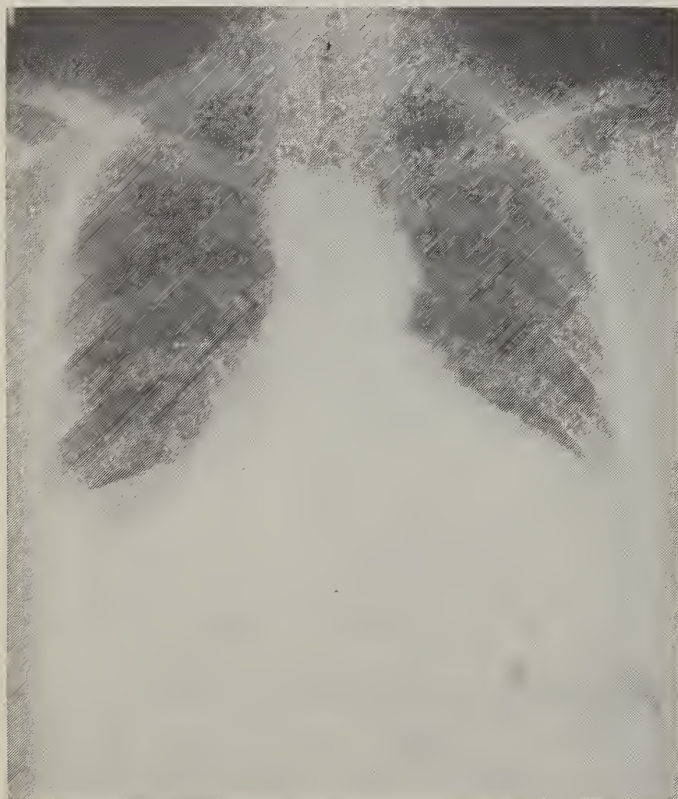


pyelogram showed the probable gallstone and a filling defect in the bladder which was interpreted as prostate. An initial electrocardiogram was read as borderline normal with a slightly low voltage of QRS complexes. The patient was treated with digitalis and diuretics with only slight improvement. Two weeks after admission he had a bout of chest pain and developed premature auricular contractions. A pericardial friction rub developed and 2:1 heart block with auricular flutter and fibrillation. Because a myocardial infarct was suspected, he was placed on anticoagulation. The initial prothrombin time was 12.5 seconds with a 12.5 second control.

Fifteen days after admission, the serum glutamic oxaloacetic transaminase was 108 units, the lactic dehydrogenase was 570 units and the creatine phosphokinase 3 units. Serial electrocardiograms revealed an abnormal pattern with T wave changes, low voltage and later atrial fibrillation and flutter. Diffuse ischemic myocardial changes were suggested. A urine culture grew out 20,000 colonies of enterococcus. The total leukocyte count rose to 14,800 with 98% neutrophils. Repeat chest film showed an apparent decrease in heart size and a left lower lobe infiltrate.

In spite of treatment, the patient did not respond well and expired on the forty-second hospital day.

Figure 1



Chest film shown in protocol demonstrating marked cardiac enlargement.

## CASE DISCUSSION

DR. LYNN DE MARCO: In spite of the patient's long hospital course the history and physical findings are not extensive and the laboratory data are amazingly brief. The patient was not anemic but an elevated blood sugar with a diabetic glucose tolerance curve was observed. The chest films may be of marked significance in this case. Can we see them?

DR. BARLOW: In the absence of radiologist, Dr. Seim, would you like to comment on this chest film?

\*DR. HAL SEIM: I am glad that I read the protocol. You can see the marked cardiac enlargement and the fluid on the right side. The aortic knob appears prominent.

DR. BARLOW: Do you see any calcification?

DR. SEIM: No.

DR. BARLOW: Here are some other chest films that are essentially the same. This film was taken a month after admission and shows an infiltrate in the left lower lobe in addition to the other findings. There also seems to be some decrease in heart size but this is hard to evaluate. I am using the radiologist's interpretation of these films.

DR. DE MARCO: The chest films, unfortunately, are not very helpful except for the cardiomegaly and effusion. The patient had low voltage in the ECG and was treated with digitalis and diuretics. He did not respond to these agents. The lack of response may be of significance although this is not terribly uncommon in patients of this age group.

It was not until two weeks after admission that the patient developed chest pain and premature auricular contraction. A pericardial friction rub and heart block with auricular flutter and fibrillation developed. The enzyme studies are compatible with myocardial necrosis as is the white count and differential. The pericardial friction rub could also have developed from myocardial infarction involving the pericardium. Dr. Jones, would you like to discuss the electrocardiograms?

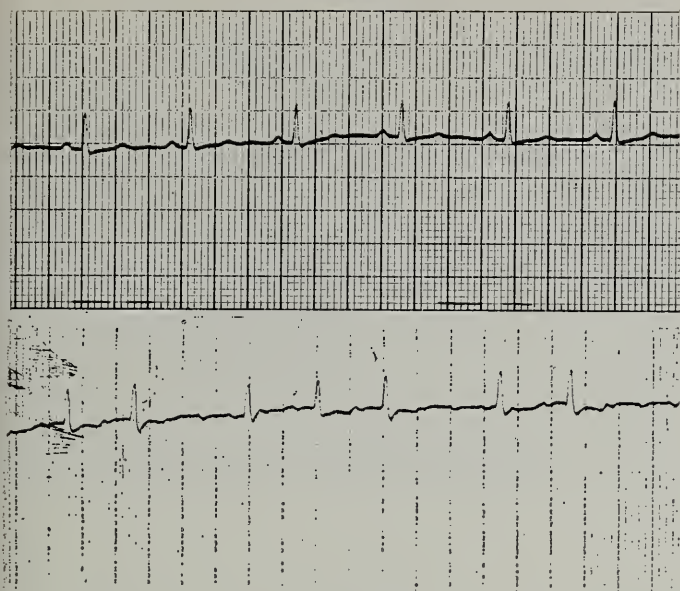
\*\*DR. JONES: The first three ECG's appear to be within normal limits. The first abnormal electrocardiogram shows nonspecific myocardial damage. This was taken right after the episode of chest pain mentioned in the protocol. The last ECG shows rapid atrial flutter and block and anterior wall myocardial damage.

\* Intern, Sioux Valley Hospital.

\*\*Internist, Sioux Valley Hospital, Assistant Dean, School of Medicine, University of South Dakota.



Figure II



The upper tracing represents lead I of the first electrocardiogram described. The lower tracing is the electrocardiogram interpreted as the arrhythmia described in the protocol as auricular flutter and fibrillation.

DR. BARLOW: I have left out a little on the interpretation of the electrocardiograms because I knew that I was going to show them at the conference. In the first three ECG's low voltage was suggested. There are some nonspecific T wave changes suggesting diffuse myocardial ischemia.

DR. JONES: I do not really see the low voltage.

DR. DE MARCO: I agree. It is borderline change.

DR. BARLOW: What causes low voltage on the electrocardiogram?

DR. JONES: One of the more common things is dampening of the waves by fluid around the heart.

DR. BARLOW: The later ECG's were interpreted as you stated, rapid atrial flutter and changes suggesting myocardial ischemia and possible infarction. These latter tracings were after the episodes of chest pain.

DR. DE MARCO: There is paucity of data for a patient who has been hospitalized for such a long time. I think that he may have had a syndrome that I call "the dwindles." You see this very often in elderly patients. The pericardial friction rub, ECG changes and enzyme changes after the episode of chest pain point to a myocardial infarction — this all being on the basis of coronary heart disease. However, I doubt that this case would have been presented if it were a straightforward case of myocardial infarction. I think that he had some other heart disease and I would think in two general categories — either myocardial disease or pericardial disease. There

is a possibility that this patient had pericardial effusion and pericardial tamponade but against this diagnosis is the absence of pulsus paradoxicus and the fact that he did not have trouble sooner during his hospital course. I think that the constrictive pericarditis is unlikely in view of the fact that the patient had an enlarged heart which is unusual with constrictive pericarditis. The patient had evidence of pleural effusion which is unusual in pericarditis and there was no really strong evidence of right heart failure which is characteristic of pericardial constriction.

I therefore think that this man may have had myocardial disease. The causes of myocardio-pathy are many. Because of the patient's advanced age and presence of 3+ proteinuria the diagnosis of cardiac amyloidosis is a good possibility. The patient had been relatively well up to this admission but I think that you can see this with amyloidosis. The absence of hepatosplenomegaly does not rule out cardiac amyloid which can be localized to the heart especially in the elderly. There are an infinite number of other possibilities which could be mentioned. These include hemochromatosis, alcoholism, sarcoidosis, carcinoid heart disease and collagen disease. I would not give any of these consideration. Hemochromatosis is a vague possibility because the patient had diabetes. My diagnoses then are:

- (1) CARDIAC AMYLOIDOSIS
- (2) CORONARY HEART DISEASE WITH RECENT MYOCARDIAL INFARCTION AND ACUTE PERICARDITIS
- (3) DIABETES MELLITUS
- (4) CHOLELITHIASIS
- (5) BENIGN PROSTATIC HYPERTROPHY

Dr. Sossey, What do you think of this case?

DR. WALTER K. SOSSEY\*: I would be interested to know if this patient's chest pain was a continuing thing or did it disappear? I certainly wonder if the patient could have had a dissecting aneurysm or even a myocardial contusion with pericardial bleeding?

DR. DE MARCO: I doubt that the trauma was that significant. However, this is a good thought and a possibility.

DR. DE MARCO: Dr. Frederickson, what do you think about it?

DR. CURTIS FREDERICKSON†: I think that the trauma could have caused myocardial contusion. This can happen with a steering wheel injury to the myocardium, can it not?

\*Intern, Sioux Valley Hospital.

†Intern, Sioux Valley Hospital.



DR. DE MARCO: Yes, that can occur but I do not think that it did in this case.

DR. JONES: As I put this together this patient had a myocardial infarction after being in the hospital for two weeks but then did not die until about six weeks after admission. This is an unusual course for a myocardial infarction. What was the cause of death?

DR. DE MARCO: Well, I think that an old man like this after myocardial infarction could just go downhill with failure especially if he had myocardial disease to begin with. This is "the dwindles" as I described.

DR. JONES: I think that this patient could have developed progressive pericardial effusion over a period of time. He was started on anticoagulation after an infarction and you wonder about bleeding into the pericardium although I have no evidence for this. I cannot get away from some sort of pericardial disease in this case.

DR. DE MARCO: The thing that led me to rule out pericardial disease in this case was that the patient's heart size was larger to start with in the course of his disease. I would not expect this with progressive pericardial effusion. Constrictive pericarditis would rarely have an enlarged heart like this.

DR. MARTIN CHIPMAN\*\*\*: Do you think that this could have been viral myocarditis?

DR. DE MARCO: That is a possibility but it would have to have been a chronic form as he had no history of fever or any acute infection which you often see with a viral myocarditis.

DR. CHIPMAN: Could this whole case be a progressive tuberculous pericarditis? There are still a number of patients around with unusual symptoms who turn out to have tuberculosis.

DR. WILLIKES\*\*\*\*: Do you attribute the 3+ proteinuria due to tuberculosis of the kidney?

DR. DE MARCO: Well, I think that the proteinuria was due to amyloidosis.

DR. BARLOW: I might mention that in either amyloidosis of the heart or constrictive pericarditis, marked proteinuria may occur. In amyloidosis the cause is the stiff myocardium. The heart does not fill well in diastole and there is backpressure with renal vein hypertension and proteinuria. The same renal vein hypertension occurs in constrictive pericarditis.

DR. LAUREN WILLIKES: Would you expect

the heart size to decrease in amyloid heart disease?

DR. DE MARCO: No, not much.

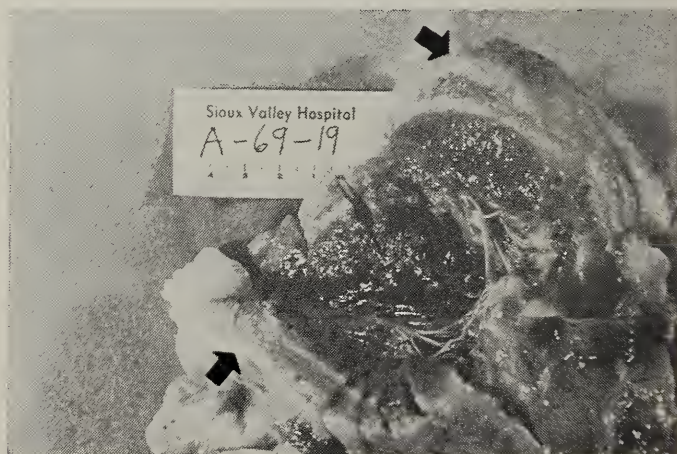
## PATHOLOGIC DISCUSSION

DR. BARLOW: This case was difficult or perhaps impossible to diagnose. However, there are several reasons why it should be presented. First of all, the disease process is one which we still must consider even in these modern times. Secondly, the patient showed a rather atypical clinical picture for this disease process. Thirdly, the pathologic findings were so dramatic I could not pass it up.

The first slide shows the heart with a hugely thickened and adherent pericardium. The visceral and parietal pericardium are densely adherent and up to 2.0 cm. thick in many areas. The whole heart weighed 900 gms., but I think a lot of this weight was due to the pericardium which was thick and fibrous with areas of yellow-green thick liquid softening. Here is a closeup picture of the thickened pericardium; (Fig. III and IV). Microscopic sections show extensive caseation necrosis with giant cells. (Fig. V). The last picture is an acid fast stain demonstrating a typical acid fast bacillus. (Fig. VI).

There were bilateral pleural effusions. Active caseous tuberculosis was present in the peribronchial lymph nodes and in the lower lobes of the lung. Microscopically there was also centrilobular necrosis of the liver due to chronic passive congestion. We grew out mycobacterium tuberculosis variety hominis (human tubercle bacillus) in this case. An incidental finding was a renal cell carcinoma which had not metastasized.

Figure III



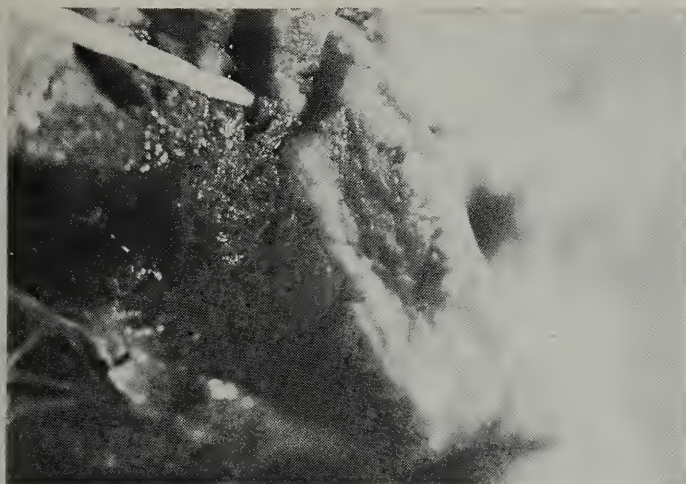
The arrows point to markedly thickened pericardium which is densely adherent to myocardium (40X).

\*\*\*Neurologist, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.

\*\*\*\*Intern, Sioux Valley Hospital.

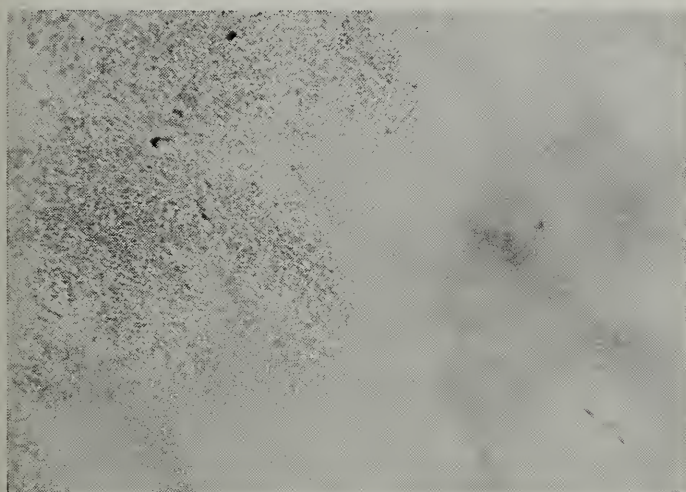


Figure IV



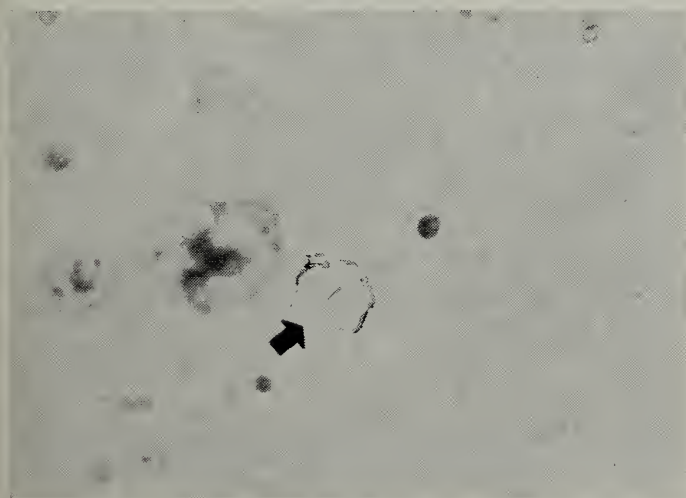
Closeup of thickened pericardium.

Figure V



Extensive caseation necrosis in right half of picture. In upper left are scattered giant cells (100X).

Figure VI



In center of picture is an acid fast bacillus (arrow)—Ziehl-Neelsen stain (930X).

#### FINAL DIAGNOSES

1. Tuberculosis, active, with
  - A. Pericarditis, severe, chronic with constriction.
  - B. Involvement of lungs and peribronchial lymph nodes.

2. Bilateral pleural effusion—right, 2,000 cc; left, 860 cc, serous.
3. Atelectasis, bilateral, severe.
4. Chronic passive congestion of liver with marked centrilobular necrosis.
5. Coronary atherosclerosis, moderate.
6. Aortic atherosclerosis, moderate.
7. Benign prostatic hyperplasia, marked.
8. Renal cell carcinoma, right.
9. Cholelithiasis.

DR. DE MARCO: How bad was the coronary heart disease? Was there a myocardial infarct?

DR. BARLOW: The coronary disease was only moderate. There was no infarction.

DR. DE MARCO: Well, what was the cause of death?

DR. BARLOW: I think he had constrictive pericarditis and possibly impairment of myocardial function from the pericardial process.

DR. DE MARCO: This may be true but I will have to say that this is not the picture of constrictive pericarditis. The heart was huge and there was no really good evidence of right heart failure.

DR. BARLOW: The huge heart was undoubtedly due to the very massive pericardial thickening which I admit is very unusual. Right heart failure may not have been well brought out in the protocol or have been apparent clinically. However, he had passive liver congestion with central necrosis — a finding in right heart failure. The liver weighed only 1,600 gms. which is only slightly enlarged. I admit this case was a "curve ball" but the findings were of extreme interest and I could not pass it up.

DR. ENSBERG\*: Were the kidneys involved?

DR. BARLOW: No.

DR. ENSBERG: Was there apical tuberculosis?

DR. BARLOW: No, the tuberculosis was microscopic and in the lower lobes.

DR. ENSBERG: It should be pointed out that the patient was a diabetic. In diabetes the localization of adult or secondary tuberculosis is often not in the apical regions where you suspect it but in atypical locations.

DR. BARLOW: This is an amazing case and points out several important things. We are seeing a great many cases of tuberculosis in the elderly. This probably represents reactivation or dissemination of dormant tuberculosis. The original infection was probably acquired years previously. This concept that most adult tuberculosis is reactivation of dormant infection is important. Because of this there has been a

\*Surgeon, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.



greater desire to spot patients with dormant tuberculosis and treat them before reactivation. Isoniazid is most likely very effective in eliminating such dormant foci and preventing reactivation. Many experts now feel that the tuberculin test can be used to select patients who have dormant tuberculosis. Thus, the tuberculin reactor comprises a reservoir of future tuberculosis. It has been proven that isoniazid can greatly reduce the risk of active tuberculosis among tuberculin reactors.

The U. S. Public Health Service, The American Thoracic Society and National Tuberculosis and Respiratory Disease Association suggest the following candidates for isoniazid therapy.

1. Positive tuberculin reactors with pulmonary fibrosis or old fibrotic lesions presumably tuberculous in origin.
2. Former tuberculosis patients who have never had specific chemotherapy or who have had inadequate drug therapy (treatment less than 18 months or no isoniazid, etc.)
3. Persons with pulmonary lesions of unknown etiology, compatible with tuberculosis in which active disease has been excluded.
4. Members of the household of a newly diagnosed case of tuberculosis, regardless of tuberculin status. Preventive treatment of negative reactors should also be given other persons who have had close, extended exposure comparable to that of a person living in the same household with an active case.
5. Children who are reactors through the age of adolescence.
6. School personnel and other adult reactors closely associated with children.
7. Tuberculin reactors in certain clinical situations known to lessen their resistance to disease; prolonged corticosteroid therapy, gastrectomy, leukemia, silicosis, Hodgkin's Disease, pneumoconiosis, severe or poorly controlled diabetes, children with whooping cough or measles, pregnancy.

Another point about the tuberculin test is its interpretation. I prefer to discuss the Mantoux intradermal test using PPD (Purified Protein Derivative). The patch or puncture tests such as Tine are subject to both false positives and false negatives. 0-4 mm. of induration is considered negative. Note that induration and not redness is used. 5-9 mm. of induration can result from infection by mycobacterium tuberculosis variety hominis (human tubercle bacillus) or one of the so called anonymous, atypical or unclassified mycobacteria. Induration of 10 mm. or more is indicative of infection with mycobacterium tuberculosis (human).

Since this test is so important it should also be stressed that laboratory personnel or nurses who perform the intradermal test, do so correctly. There is a definite technique. A sub-

cutaneous injection is worthless. An intradermal test utilizing 5 tuberculin units (intermediate) is the standard test. Higher or lower doses of intradermal tuberculin are not more helpful. If an equivocal response occurs, use of purified protein derivative from one or more of the atypical mycobacteria may be used to see if tuberculin hypersensitivity is due to infection from these organisms.

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1. **Diagnostic Standards and Classification of Tuberculosis** printed by National Tuberculosis and Respiratory Disease Association, 1969.
2. **Morbidity and Mortality** — Weekly report, May 3, 1969, from National Communicable Disease Center, Georgia.

#### ANNUAL OTOLARYNGOLOGIC ASSEMBLY

October 23 through 29, 1971

THE ANNUAL OTOLARYNGOLOGIC ASSEMBLY OF 1971 will be held October 23 through 29, 1971, in the University of Illinois Hospital Eye and Ear Infirmary. The Department of Otolaryngology, Abraham Lincoln School of Medicine, University of Illinois at the Medical Center, offers a condensed postgraduate basic and clinical program for practicing otolaryngologists under the direction of Emanuel M. Skolnik, M.D. It is designed to bring to specialists current information in medical and surgical otorhinolaryngology.

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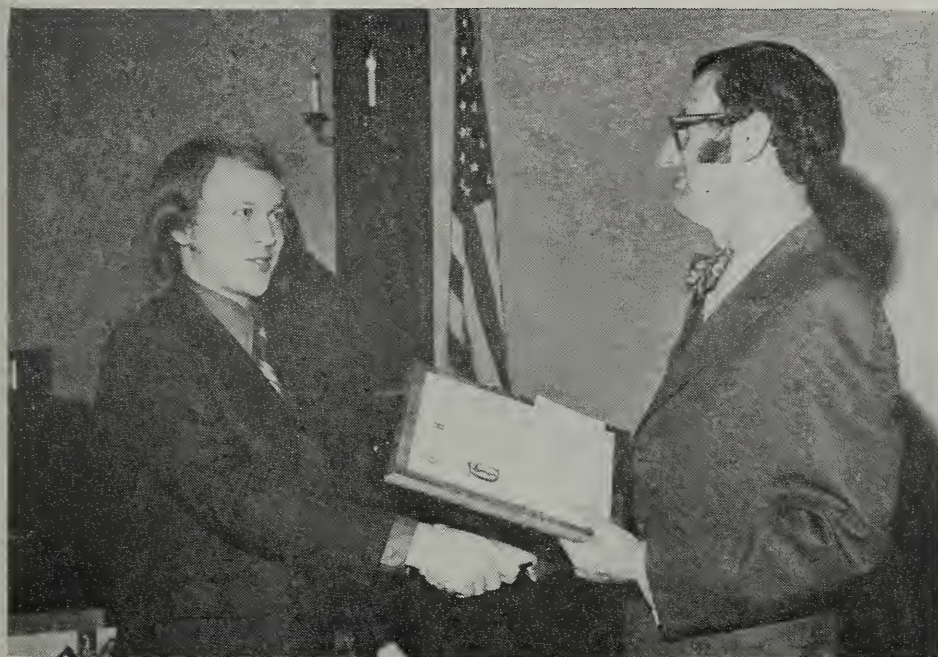
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# MEDICAL ASSOCIATION

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News Notes • Changes • Births • News

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**Dean George Knabe** presented the 1971 South Dakota State Medical Association scholarship to **Donavon Albertson**, a freshman from Madison, South Dakota, at the re-

cent Student American Medical Association banquet. Mr. Albertson was chosen on the basis of his improvement and accomplishment in the study of medicine.

The Lake County Mental Health Association announced the re-election of **J. L. Reagan, M.D.**, Madison, to its board.

Members attending the 19th Annual South Dakota League for Nursing Convention in Aberdeen heard **Eldon Bell, M.D.**, Webster, speak on "Health in the 70's." **W. R. Taylor, M.D.**, Aberdeen, participated in a Diabetic Symposium.

**Ernest C. Nauman, M.D.**, 71, formerly of Hot Springs, died recently after being hospitalized at the Veterans Hospital in Iowa City, Iowa. Dr. Nauman opened his practice in South Dakota in 1937. He is survived by a son, Ernest I., Cedar Falls, Iowa, and a daughter, Donna M., North Liberty, Iowa.

**Michael C. Rost, M.D.**, Sioux Falls, has been named staff anesthesiologist and clinical director of McKennan Hospital's departments of anesthesia and inhalation therapy.

**C. L. Swanson, M.D.**, Pierre, was Master of Ceremonies for the annual banquet of the Licensed Practical Nurses Association held in Pierre. Speakers at the sessions included **B. O. Lindbloom, M.D.**, and **Robert Hayes, M.D.**, both of Pierre, and featured banquet speaker was **R. E. Van Demark, M.D.**, Sioux Falls.

\* \* \*

**R. E. Van Demark, M.D.**, Sioux Falls, demonstrated the electromyograph machine at the annual meeting of the South Dakota Chapter of the American Physical Therapy Association held in Huron.

(Continued on Page 30)

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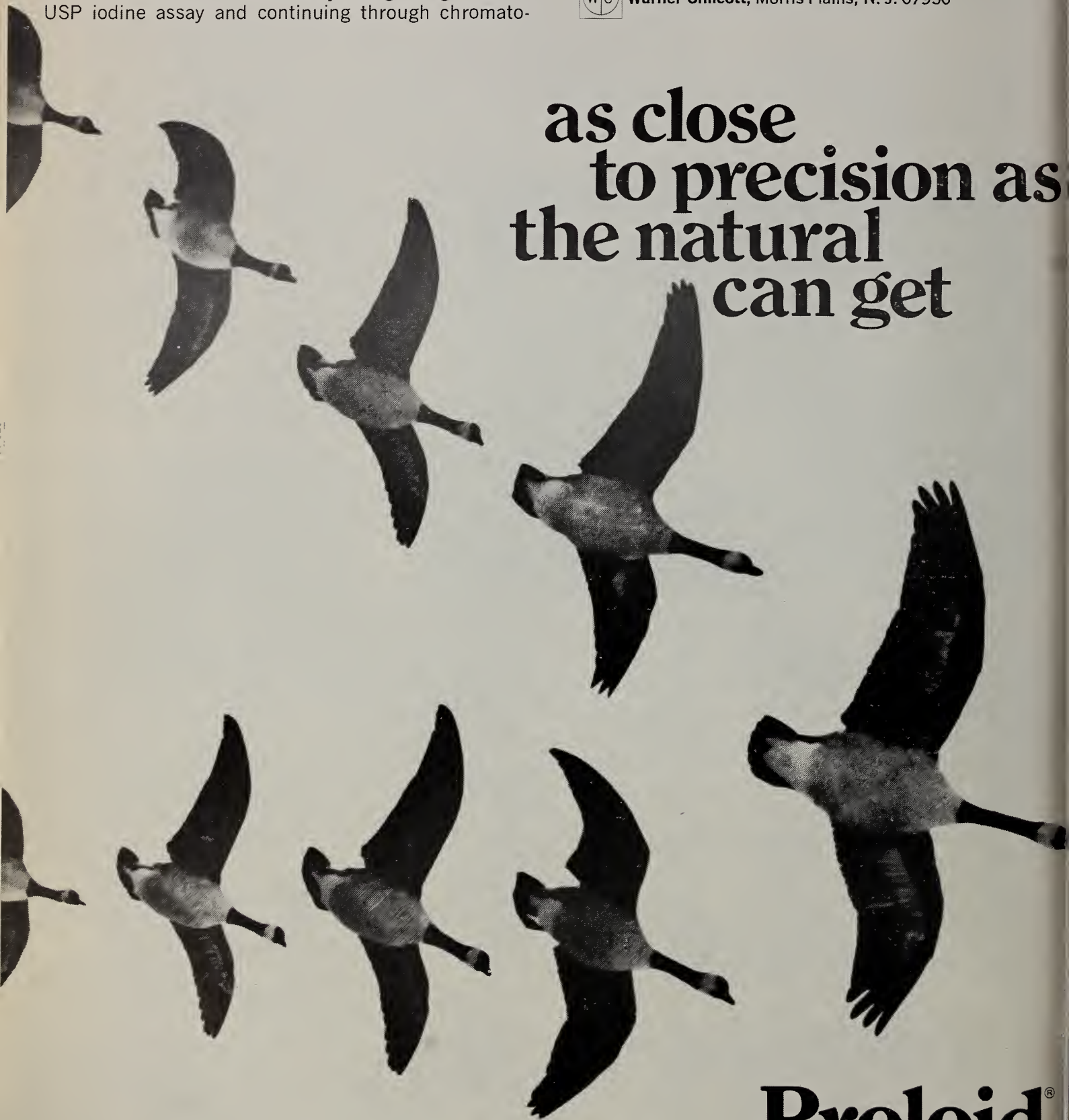
graphic analysis for  $T_4$  and  $T_3$  content and including testing in hypothyroid humans—Proloid is made as precise as the natural product can get, batch after batch.

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Chromatographic analysis to standardize the sodium levothyroxine and sodium liothyronine content of Proloid (thyroglobulin) is routinely employed.

The ratio of  $T_4$  and  $T_3$  in Proloid (thyroglobulin) is approximately 2.5 to 1.

Proloid (thyroglobulin) is stable when stored at usual room temperature.

**Indications:** Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in non-emergency situations, in an attempt to reduce the size of such goiters.

**Contraindication:** Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

**Warnings:** Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid, and dosage should be started at a very low level and increased gradually.

**Precaution:** As with all thyroid preparations this drug will alter results of thyroid function tests.

**Adverse Reactions:** Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

**Dosage and Administration:** Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR,  $T_3$   $^{131}I$  resin sponge uptake,  $T_3$   $^{131}I$  red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of  $T_4$  and  $T_3$  is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

**Instructions for Use:** The following conversion table lists the approximate equivalents of other thyroid preparations to Proloid (thyroglobulin) when changing medication from desiccated thyroid,  $T_4$  (sodium levothyroxine),  $T_3$  (sodium liothyronine), or  $T_4/T_3$  (liotrix).

Dose of Proloid (thyroglobulin)	Dose of desiccated thyroid	Dose of $T_4$ (sodium levothyroxine)	Dose of $T_3$ (sodium liothyronine)	Dose of liotrix ( $T_4/T_3$ )
1 grain	1 grain	0.1 mg	25 mcg	±1 (60 mcg/15 mcg)
2 grains	2 grains	0.2 mg	50 mcg	±2 (120 mcg/30 mcg)
3 grains	3 grains	0.3 mg	75 mcg	±3 (180 mcg/45 mcg)
4 grains	4 grains	0.4 mg	100 mcg	
5 grains	5 grains	0.5 mg	125 mcg	

In changing from Thyroid USP to Proloid (thyroglobulin), substitute the equivalent dose of Proloid (thyroglobulin). Each patient may still require fine adjustment of dosage because the equivalents are only estimates.

**Overdosage Symptoms:** Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

**How Supplied:**  $\frac{1}{4}$  grain;  $\frac{1}{2}$  grain; scored 1 grain;  $1\frac{1}{2}$  grain; 3 grain; and scored 5 grain tablets, in bottles of 100 & 1000; and scored 2 grain tablets in bottles of 100.

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## Letter to the Editor

323 N. Elm Street

Vermillion, South Dakota 57069

April 4, 1971

Mr. Richard C. Erickson

Executive Secretary, S.D.S.M.A.

711 N. Lake Avenue

Sioux Falls, South Dakota 57104

Dear Mr. Erickson:

Last night at the SAMA banquet, I was given the South Dakota State Medical Association Scholarship. On behalf of my wife and myself, thank you very much for your help.

This gift will substantially help us in this next year of Medical School. Your concern and generosity are greatly appreciated.

Sincerely,

Donavon Albertson



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(Continued from Page 27)

The Student American Medical Association presented Golden Apple Awards to **Richard Jaqua, M.D.**, Sioux Falls, and **Josephine C. Moore, Ph.D.**, Vermillion. This award is presented to an outstanding instructor from each of the sophomores' two years.

\* \* \*

The Rapid City Medical Center announced the association of **Thomas T. Coolidge, M.D.**, a board certified general surgeon.

\* \* \*

At a recent conference on blood banking held in Scottsdale, Arizona, **Harold L. Frost, M.D.**, Rapid City, received an award for outstanding community service in recognition of his six-year tenure as medical director of Blood Services' facility in Rapid City.

**O. M. Jerde, M.D.**; **James A. Cline, M.D.**; **C. B. Gwinn, M.D.**; **Alfred Hofmann, M.D.**, and **Glen Heidepriem, M.D.**, all of Rapid City, participated in a workshop on respiratory disease in community hospitals, which was held at St. John's McNamara Hospital in Rapid City.

\* \* \*

The Regional Advisory Group of the Regional Medical Program and the Comprehensive Health Planning Program have named **T. H. Sattler, M.D.**, Yankton, chairman of the 41 member health provider and consumer group.

\* \* \*

**G. E. Tracy, M.D.**, Watertown, was featured speaker on "Love, Marriage and Family Life," which is a series of talks open to the public and held at

the Auditorium in Watertown. Dr. Tracy also spoke to the Clear Lake American Legion Club on "Human Sexuality."

\* \* \*

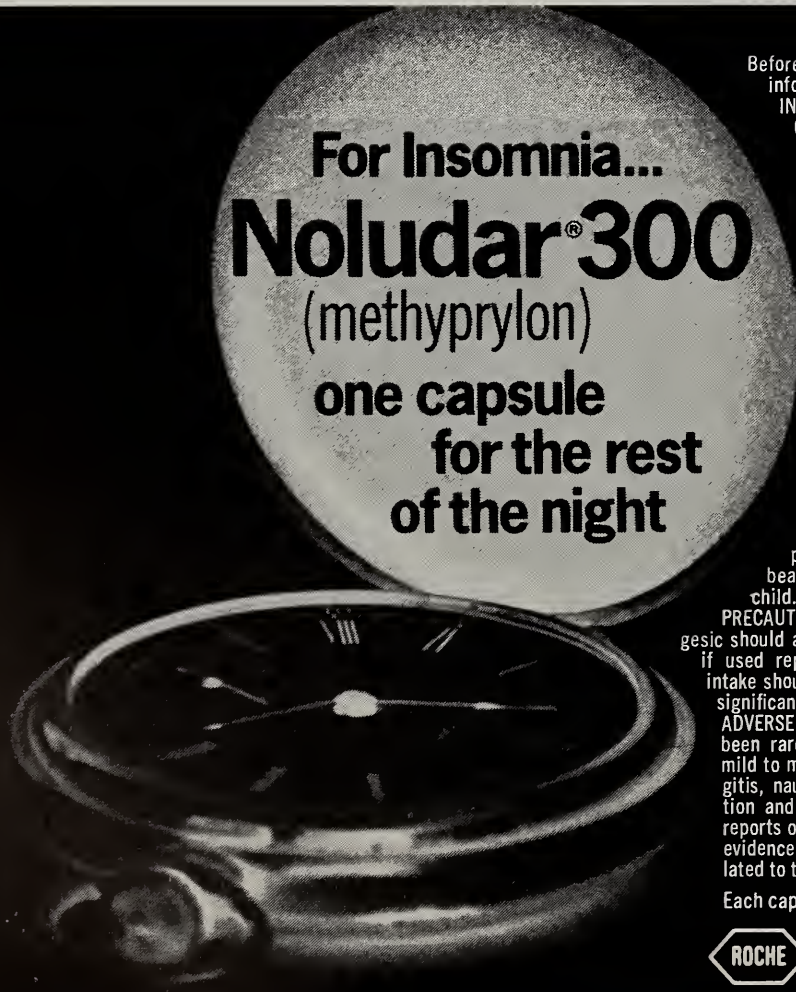
The American College of Obstetricians and Gynecologists announced the installation of **Richard Thornton, M.D.**, Rapid City, and **Raymond G. Burnett, M.D.**, Rapid City, as Fellows of the College.

\* \* \*

**Eugene Gibbs, M.D.** has established an office in Ipswich for general practice.

\* \* \*

Participants in a symposium on Fluid and Electrolyte Disturbances held at the Medical School in Vermillion included **W. O. Rossing, M.D.**, Sioux Falls, and **Bruce Lushbough, M.D.**, Brookings.



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**Usage in Pregnancy:** Weigh potential benefits in pregnancy, during lactation, or in women of child-bearing age against possible hazards to mother and child.

**PRECAUTIONS:** If sleeplessness is pain-related, an analgesic should also be prescribed. Perform periodic blood counts if used repeatedly or over prolonged periods. Total daily intake should not exceed 400 mg, as greater amounts do not significantly increase hypnotic benefits.

**ADVERSE REACTIONS:** At recommended dosages, there have been rare occurrences of morning drowsiness, dizziness, mild to moderate gastric upset (including diarrhea, esophagitis, nausea and vomiting), headache, paradoxical excitation and skin rash. There have been a very few isolated reports of neutropenia and thrombocytopenia; however, the evidence does not establish that these reactions are related to the drug.

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## COUNCIL MEETING MINUTES

11:30 a.m. **Holiday Inn**  
**Saturday, April 24, 1971** **Sioux Falls, South Dakota**

The meeting was called to order by Dr. Harvard Lewis, Chairman of the Council. Those present for roll call were Doctors J. A. Muggly, G. R. Bartron, W. R. Taylor, A. P. Reding, R. H. Quinn, J. J. Stransky, H. R. Lewis, J. T. Elston, David Seaman, G. E. Tracy, Bruce Lushbough, C. L. Swanson, Fred Leigh, Duane Reaney, E. T. Ruud, M. R. Cosand, J. E. Ryan, Eldon Bell. Also J. B. Gregg and B. C. Gerber, Commission Chairmen, and student representative, Todd Biegler. Others present included Robert Hayes, M.D.; Mr. Bob Warnick, AMA Field Service; and Blue Shield staff, Pete Galindo, Chuck Tufty and Randy Tufts.

It was moved, seconded and carried that the minutes be dispensed with inasmuch as they were published.

Dr. Leigh moved that the Council name Dr. Eldon Bell as Councilor from the Twelfth District. The motion was seconded by Dr. Reding and carried.

### MINUTES OF THE MEETING OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

10:00 a.m. **Executive Office**  
**Saturday, March 27, 1971** **Sioux Falls, South Dakota**

Meeting called to order at 1005, adjourned at 1500. Members present: Doctors Gere, Church, Foley, Hayes, Gregg. Student representative — Clark Gunderson. Also in attendance: Doctors Muggly, Bell, Shaeffer, Rudolph, Adams, Gross, Van Demark, and Messrs. R. C. Erickson, R. Johnson, Ron Schmidt, Student representatives — Dave Rothenberger and Don Rollins. Guests: Doctors Shindler and Scofield representing the South Dakota Podiatry Association.

Minutes of the last meeting were dispensed with, having been published.

**BUSINESS:** 1) Review of 1971 legislative action by Mr. Erickson.

#### SPONSORED BILLS

H.B. #590—**Medical Corporation Law.** Amends present law to allow one physician to incorporate. **Final Passage.**

#### ENDORSED BILLS

S.B. #8—**Fireworks.** Prohibits sale, possession or transportation of fireworks within the state. Limits wholesaling of fireworks to licensed persons for display purposes. Local firechief or sheriff determines qualifications of applicants. **Bill Killed.**

S.B. #28—**Drug Education.** Requires all public and private elementary and secondary schools to give special instruction on alcoholic drinks, drugs and narcotics. **Final Passage.**

S.B. #34—**Drug Law.** Amends Drug and Controlled Substances Law of 1970 by adding additional drugs and reducing some penalties for possession, use or selling of drugs. Judiciary Committee removed penalty provisions. **Final Passage.**

S.B. #43—**V.D. Treatment.** Allows examination and treatment of minors for V.D. without parental consent. Does not allow disclosure of information with consent of minor. **Final Passage.**

S.B. #247—**Optometric Law.** Amends law to prohibit advertising of ophthalmic appliances. **Bill Killed.**

H.B. #549—**Regional Medical Education Board.** Establishes Board to promote and plan medical education in Iowa, Minnesota, North and South Dakota. **Final Passage.**

H.B. #568—**Medical Service Liability.** Provides that persons and organizations engaged in the transplantation, injection, transfusion or transfer of human tissue, organs and blood shall not be liable for damages except for their own negligence. **Died in Committee.**

H.B. #679—**Health Professions Loan Fund.** Appropriates \$195,000 for loan fund. Loans available to South Dakota students of medicine, osteopathy, veterinary medicine and dentistry. Amended to \$125,000 by Appropriations Committee. **Final Passage.**

H.B. #688—**Physicians' Assistants Pilot Study.** Appropriates \$200,000 to conduct a pilot program to study utilization of physicians' assistants in South Dakota. **Died in Committee.**

H.B. #747—**Basic Science Law.** Amends law to allow for waiver of examination if the applicant is duly licensed elsewhere and has practiced for five years prior, and a member in good standing of his professional society, and if he has no proceedings against him which might cause revocation of license. **Final Passage.**

H.B. #839—**Health Professions Loan Act.** Amends act to allow an additional 10 percent forgiveness of the loan to persons practicing in counties with no town having a population exceeding 5,000 persons. **Final Passage.**

H.B. #511—**Fireworks.** Provides that no person under 18 shall be licensed to sell, dispense, or offer for sale fireworks. **Does not** exclude general retail sale of fireworks, but includes restrictions as to area of discharge. **Final Passage.**

#### BILLS OF INTEREST

S.B. #191—**S. D. Health Services Council.** Provides for a Council and requires a Certificate of Need prior to construction of new or expansion of present medical facilities (hospital) which would involve expending \$100,000 or more. **Bill Killed.**

H.B. #519—**Drug Sales Tax.** Exempts all humanly consumed prescription drugs and medicines from retail sales tax. **Died in Committee.**

H.B. #545—**Blood-Alcohol Test Law.** Amends law relating to the taking of blood for alcohol test, by allowing a registered nurse to draw blood. **Final Passage.**

H.B. #547—**Drug Abuse Conference.** Appropriates \$5,000 for a statewide conference on drug abuse. **Killed in Senate.**

H.B. #580—**Immunizations.** Requires that any pupil entering school for the first time be

(Continued on Page 32)

### POSTGRADUATE COURSE IN LARYNGOLOGY AND BRONCHESOPHAGOLOGY

October 4 through 9, 1971

The Department of Otolaryngology of the University of Illinois at the Medical Center will conduct a postgraduate course in Laryngology and Bronchoesophagology from October 4 through 9, 1971. This course is limited to fifteen physicians and will be under the direction of Paul H. Holinger, M.D. It will be held largely at the University of Illinois Hospital Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, and will include visits to a number of other Chicago hospitals. Instruction will be provided by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures and several motion pictures.

Interested registrants will please write directly to the Department of Otolaryngology, Abraham Lincoln School of Medicine, University of Illinois at the Medical Center, Postoffice Box 6998, Chicago, Illinois 60680.



(Continued from Page 31)

tested and free from a contagious form of tuberculosis and be immunized for poliomyelitis, smallpox, diphtheria, measles and tetanus. **Final Passage.**

H.B. #702—**Combined Departments.** Creates a Department of Health, Rehabilitation, Social Service and Welfare. **Deferred for a one year study.**

H.B. #864—**Tax for Medical Education.** Creates a tax on all soft drinks, coffee and tea, its proceeds to be used for medical education in South Dakota. **Died in Committee.**

#### OPPOSED BILLS

S.B. #14—**V. D. Treatment.** Provides for examination and treatment of minors for V. D. without consent of parents. Provides for disclosure of information with consent of minor. **Bill Killed.**

S.B. #73—**Blue Shield Enabling Law.** Amends law to require podiatrists' services be covered by Blue Shield and designates a podiatrist as a physician and surgeon. **Bill Killed.**

S.B. #74—**Podiatry Law.** Amends law to allow a podiatrist to perform any and all services on the foot except for amputation. **Bill Killed.**

S.B. #242—**Podiatry Law.** Amends law to allow a podiatrist to amputate the distal phalanx of a toe and to remove partial bones in the foot. **Passed Senate.** House Committee amended out objectionable language concerning scope of practice. Final bill raises Podiatry Board registration fees. **Final Passage.**

H.B. #818—**Health Professions Loan Act.** Amends act to allow loans for optometry students. **Bill Killed.**

H.B. #863—**Blue Shield Enabling Law.** Amends law to require podiatrists' services to be covered by Blue Shield. **Died in Committee.**

**MEDICAL SCHOOL APPROPRIATION** — was contained in the general Board of Regents budget. (\$857,400 — same as last year.)

Because of problems which were encountered during the legislative session relating to the Podiatry Practice Act, it was necessary to hold a special telephone conference between as many of the Commissioners as were available, on February 16, 1971. The following is the report of this conference:

Commissioners Foley, Gregg, Honke, Ryan and Wold and Mr. Bob Johnson participated, and Dr. R. Hayes responded later.

Proposed legislation, SB - 74, SB - 73, in the 1971 Senate of South Dakota to widen the field of activity of podiatrists and to, by legislation, force coverage of podiatry services under the Blue Shield Plan of South Dakota was tabled in the committee chaired by A. W. Spiry, M.D. of Mobridge on 2-8-71. The South Dakota Blue Shield had been represented by Mr. John Zimmer and the South Dakota Medical Association was represented by Mr. R. C. Erickson in the discussions which culminated in the tabling of these bills. Doctors Robert Hayes, R. Giebink and J. B. Gregg were in attendance at the Senate Committee meeting at which these bills were discussed. Shortly after the tabling action, the attorney representing the podiatrists as their lobbyist asked Mr. Erickson to reconsider and change the action of the SDSMA on these bills. At the recommendation of the chairman of the Commission on Legislation and Governmental Relations of the SDSMA the podiatry lobbyist was informed that the SDSMA did not desire to reopen the matter, but would agree to a meeting of members of the Podiatry Association and the Commission on Legislation of the SDSMA to discuss the matter and make appropriate recommendations to the SDSMA. This offer of committee meeting was not accepted.

On 2-15-71 Senator Wollman introduced into the South Dakota Senate, by request, Senate Bill 242 to

change the Podiatry Practice Act. Although similar, this bill was changed slightly as compared to the tabled bill, SB - 74. On this same date HB - 863, a bill very similar to SB - 73 which had been killed in the Senate one week earlier, aimed at inclusion of podiatrists under Blue Shield of South Dakota, was introduced into the House by Representative Giebink.

Because of the way in which this matter had been handled by representatives of the Podiatry Association, plus the fact that the position of the SDSMA was compromised by the factors outlined above, it was felt that the Commission on Legislation should be polled regarding their thoughts concerning this matter. Prior to the telephone conference of the Commission, telephone and personal contact was made with as many orthopedists, general surgeons and others as possible over the state by the chairman of the Commission, so as to ascertain that action by the Commission represented the opinions of the physicians of this state. The Commission voted unanimously to forward the attached letter to the representatives of the SDSMA in Pierre to be presented to legislators who deliberated this matter.

#### TO WHOM IT MAY CONCERN:

The South Dakota State Medical Association opposes the changes in the Podiatry Practice Act, House Bill 242. We urge the Legislature of the State of South Dakota to table the legislation pertaining to this matter.

The Commission on Legislation and Governmental Relations of the South Dakota State Medical Association would be happy to meet with a committee of the South Dakota Podiatry Association to discuss this matter.

J. B. Gregg, M.D., Chairman  
Commission on Legislation and  
Governmental Relations

2) Licensure of health occupations and continuing competence of physicians.

A. It has been brought out in communications from the AMA that licensing of physicians' assistants has many drawbacks and problems and that the actions of such personnel can be regulated if state legislatures amend the state laws which restrict delegation of tasks to allied health personnel by physicians. At the present time, this matter does not need specific legislative alteration in South Dakota.

B. Relicensing or recertification of competence of physicians is a matter which is becoming increasingly important on a national level. Although no specific action is needed in South Dakota at the present time, this matter must be kept for further study by this Commission.

3) Basic Science Law and Medical Practice Act changes. See HB 747. A resolution is to be submitted by the Seventh District Society to the House of Delegates of the SDSMA at the 1971 annual meeting asking for a study to modernize the medical licensing laws in this state. No action by the Commission.

4) Information on medical malpractice problems from the California Medical Association and their attempts at solution by legislation were discussed. No definite action by the Commission. An editorial will appear in the Journal of the SDSMA relating to the subject of res ipse loquitur in one of the next two issues. This will be pertinent to this subject.

5) Communication regarding improved services for the School for the Blind resulting from the removal of the school from Gary to Aberdeen. It was reported "There is no question in my mind that the move to Aberdeen was of real benefit. I feel that the medical services and facilities available to us are sufficient to meet our present needs. /s/ George N. McCrea, Superintendent." It was the opinion of the Commission that it is heartening to note that medical services have been definitely improved by the move of one state operated institution to a community with better medical services. Dr. Gere reported that the services of a psy-

(Continued on Page 35)



(Continued from Page 32)

chologist and medical services are available in Mitchell as well as in Yankton for individuals housed at the State Training School at Plankinton. The Commission feels that any plans to improve educational and other programs at Plankinton, or any attempt to remove this school from Plankinton, are beyond the scope of activity of this Commission and the SDSMA. If it will be to the betterment of trainees at Plankinton that change be made, this is to be encouraged.

- 6) Peer review corporation. Conferences on this subject are to be encouraged. American Association of Physicians and Surgeons, in Chicago, and by the Iowa State Medical Association in Des Moines, soon. It was M/S/P (Church/Hayes) that the SDSMA send two (2) delegates to each of these meetings and receive a report to the SDSMA from each delegate.
- 7) Legislative policy on abortion by the SDSMA. A communication was received from the President of the S.D. Ob-Gyn Society as follows: I am going to be out of town for the coming meeting of the Commission on Legislation and Governmental Relations of the South Dakota State Medical Association, therefore I am writing you the results of an informal poll of both the specialist and generalist, who are doing the vast majority of obstetrics and gynecology. There were 55 questionnaires sent out. The questions were that if the South Dakota abortion law was overturned by being called unconstitutional would you favor a) no further legislation or b) a new abortion law preferably coming with sponsorship of the South Dakota Ob-Gyn Society.

Eight physicians were in the category (a) and 26 were in category (b). There were innumerable types of suggestions as to the make-up of such law, but it seems clear to me that the physicians do wish some type of safeguards.

B. J. Williams, M.D.

It was the opinion of the Commission that the SDSMA should reaffirm its previous statement concerning this matter.

- 8) There may be some changes introduced into the next session of the S. D. legislature to amend the Hearing Aid Dealers Licensing Law, patterned after the California law.
- 9) Mr. R. Erickson reported that the actual expenses for lobbying by the SDSMA at the 1971 session of the S. D. legislature were \$1,600.
- 10) Members of the South Dakota Podiatry Association and their attorney, Ron Schmidt, appeared before the Commission to discuss possible changes in the Podiatry Law relating to the scope of their activity and the possibility of coverage of podiatrists under Blue Shield. This Commission has no authority to discuss coverage under Blue Shield for the podiatrists and they were referred to the Blue Shield Advisory Committee. It was M/S/P (Hayes/Gere) that the new Iowa law covering the practice of podiatry be obtained, that a copy of this law be made available to each member of the Commission, that it be studied by the Commissioners and the SDSMA, and then be again discussed with the podiatrists at the September 1971 meeting of the Commission.
- 11) It was announced to the Commission that the physicians who sit as members of the South Dakota legislature were invited to attend this meeting of this Commission and in the future will be notified in advance of and invited to participate in meetings of this Commission. They will be encouraged to present their views regarding legislative matters with emphasis on those pertaining to health problems and discuss subjects pertaining to health care which they envision may appear on the legislative slate at the coming sessions. Whenever possible

the Commission and the SDSMA will appreciate very much the receipt of information relating to or a copy of proposed legislation regarding health care prior to the insertion of such legislation into the legislative hopper, so that policy arrangements can be formulated by the Commission and the SDSMA.

The next meeting of the Commission will be held in September 1971 at a date to be announced.

Respectfully submitted,  
J. B. Gregg, M.D.  
Chairman

Dr. Gregg briefly outlined the report of the Commission on Legislation and Governmental Relations. Dr. Taylor moved that the Council accept the report of the Commission on Legislation and Governmental Relations. The motion was seconded by Dr. Seaman and carried.

#### MINUTES OF THE MEETING OF THE COMMISSION ON COMMUNICATIONS AND LIAISON

10:30 A.M. Executive Office  
Saturday, March 27, 1971 Sioux Falls, South Dakota

The meeting was called to order by Chairman John Barlow, M.D. Those present for roll call were Doctors Barlow, Van Demark, Bell, Scheller, Auskaps, Sanders, Amundson, Hanson, Vose, and David Howe, student representative. Others in attendance included G. E. Tracy, M.D. and representatives of the Bar Association, including Mr. Francis Smith, Mr. Gene Pruitt, Mr. Harold Doyle and Mr. Bill Sahr.

The minutes of the last meeting were read. It was moved, seconded and carried that the minutes be approved as read.

The Commission and the attorneys decided to hold a medical-legal meeting in Vermillion the weekend of September 18. Dr. Barlow will name a three man committee to plan arrangements for the medical-legal meeting, and Mr. Stan Siegel will name a three man committee from the Bar Association to work with the physicians.

Bob Johnson briefly reported on the booth sponsored by the State Medical Association at the SDEA convention last year. He stated that the booth was successful in educating counselors and teachers concerning medical and pre-medical school, and the prerequisites thereof. Dr. Sanders moved that the State Medical Association continue to sponsor a booth at the SDEA meeting. The motion was seconded by Dr. Vose and carried.

Bob Johnson discussed Community Health Week and stated that news releases had been sent to all news media, however, very little publicity was given to Community Health Week. Physicians were urged to take a personal approach in order to receive the desired publicity.

The Commission discussed the possibility of establishing a set fee charged by physicians for medical-legal testimony. Dr. Bell moved that the Commission recommend to the Commission on Medical Service and to the Council that a committee be established to determine an appropriate relative value schedule to be utilized by the State Medical Association for the determination of fees for medical-legal testimony. The motion was seconded by Dr. Vose and carried.

The Commission also requested that action be taken immediately so a final proposal can be considered at the annual meeting in May.

The Commission members reviewed the brochures, MEDICAL CAREERS IN SOUTH DAKOTA and DOCTOR OF MEDICINE. Several corrections and suggestions were made for the updating of MEDICAL CAREERS IN SOUTH DAKOTA.

The meeting adjourned at 12:00 noon.

Mr. Erickson reviewed the report of the Commission on Communications and Liaison. The Council considered the action of the Commission whereby a



committee would be appointed to determine an appropriate relative value schedule to be utilized by the SDSMA for determination of fees for medical-legal testimony. Dr. Lushbough moved that the executive office obtain information from other states regarding set fees for medical-legal testimony, and this information should be returned to the Council. The motion was seconded by Dr. Tracy and carried. Dr. Swanson moved to accept the report of the Commission on Communications and Liaison. The motion was seconded by Dr. Ryan and carried.

#### **MINUTES OF THE MEETING OF THE COMMISSION ON INTERNAL AFFAIRS**

**9:30 A.M. Executive Office  
Saturday, March 27, 1971 Sioux Falls, South Dakota**

The meeting was called to order by B. J. Begley, M.D., Chairman. Present for roll call were Doctors Begley, C. R. Stoltz, B. T. Lenz, James Shaeffer, E. A. Rudolph, and Charles Roberts. Also in attendance was David Rothenberger, student representative.

Mr. Erickson read the minutes of the August meeting which were approved as read.

Mr. Erickson reviewed the proposed budget for 1971-72 which will be submitted to the House of Delegates at the annual meeting. A discussion on the financial situation of the Journal was held.

The Commission reviewed a chart of state association dues for the 50 states. No action was taken.

Dr. Stoltz gave a report on the Health Careers Loan Fund, which was formerly the Benevolent Fund. To date, \$4,550 has been loaned to students in allied educational programs.

The Commission reviewed the amendment to the Bylaws which will be presented to the House of Delegates concerning membership of osteopathic physicians in the South Dakota State Medical Association. The Commission recommended that the Council review the proposed bylaw change at the April 24 meeting, and that the endorsement of the Commission be forwarded to the Council at that time.

The meeting adjourned at 10:30 a.m.

Mr. Erickson briefly reviewed the report of the Commission on Internal Affairs. Dr. Stransky moved to accept the report of the Commission on Internal Affairs. The motion was seconded by Dr. Lushbough and carried.

#### **MINUTES OF THE MEETING OF THE COMMISSION ON MEDICAL SERVICE**

**1:30 P.M. Executive Office  
Saturday, March 27, 1971 Sioux Falls, South Dakota**

The meeting was called to order by Chairman B. C. Gerber, M.D. Those members present for roll call included Doctors Tracy, Mutch, Sattler, Wood and Don Rollins, student representative. Others in attendance included Doctors T. H. Willcockson, J. A. Muggly, Paul Hohm, R. H. Quinn and R. H. Hayes.

Dr. Tracy moved to dispense with the reading of the minutes of the last meeting inasmuch as they have been published. The motion was seconded by Dr. Sattler and carried.

The Commission discussed various methods of health care delivery, including the foundation approach. The Commission requested that they be kept informed of these plans and that the executive office send them information concerning the Iowa foundation. Dr. Sattler moved that the Commission recommend to the Council that the proper committee study the foundation program concept to see what application it might have for South Dakota. The motion was seconded by Dr. Tracy and carried.

At this time the regular agenda for the Commission was set aside and Dr. George Knabe, Dean of the Medical School, Dr. Henry Parrish, Acting Coordinator for the Regional Medical Program, and Dr. Bowen, President of the University of South Dakota, appeared before the Commission to discuss problems involving the Regional Medical Program and the Medical School.

Dr. Tracy briefly reported on the Admissions Committee for the Medical School and stated that to date approximately twenty students have been accepted for the 1971-72 school year.

Dr. Tracy also discussed a recommendation from the Commission on Communications and Liaison that a committee study the possibility of establishing a fee schedule for medical - legal testimony. Dr. Tracy moved that the Commission recommend to the Council that a committee be established to determine an appropriate relative value schedule to be utilized by the State Medical Association for the determination of fees for medical-legal testimony. The motion was seconded by Dr. Sattler and carried.

The Commission reviewed the material prepared by Dr. Henry Parrish concerning community health planning. No action was taken.

The Commission reviewed the letter from Representative James Abourezk concerning the physician shortage, especially in rural areas. The Commission requested that a copy of his letter be sent to Richard Belatti, M.D., Rural Health Chairman.

Dr. Quinn discussed the shortage of physicians in South Dakota. Dr. Tracy moved that the Commission recommend to the Council that the State Medical Association petition the United States government soliciting the state of South Dakota as a draft deferred state because of the shortage of doctors throughout the state. The motion was seconded by Dr. Quinn and carried.

The meeting adjourned at 4:45 p.m.

The report of the Commission on Medical Service was reviewed by Mr. Erickson. The Council was informed that Dr. E. T. Ruud, Dr. E. A. Rudolph and Mr. Erickson will attend a meeting to be held in Des Moines concerning foundations and will then report to the Council. The Council approved a suggestion that an open forum on foundations be held this summer for the information of physicians throughout the state. Dr. Swanson moved that the Council table the motion for the State Association to petition the U. S. government to make the state of South Dakota draft deferred because of the shortage of physicians. This motion was seconded by Dr. Leigh and carried. Dr. Lushbough moved to accept the report of the Commission on Medical Service. The motion was seconded by Dr. Seaman and carried.

Mr. Erickson reviewed the report of the Commission on Scientific Medicine. The Council considered the Commission's suggestion that the Communicable Disease Center in Atlanta, Georgia, be used in an advisory capacity to evaluate the use of rabies vaccine in suspected cases. Dr. Swanson moved that a local three man committee be appointed by Dr. Robert Hayes as an advisory committee to evaluate the use of the rabies vaccine in suspected cases, and that Dr. Hayes act as chairman of this committee. The motion was seconded by Dr. Taylor and carried. Dr. Leigh moved that the Council approve Dr. Hayes' request to begin negotiations with the TB Association for a Pulmonary Screening Program. This motion was seconded by Dr. Cosand and carried.

The Council discussed the proposed amendment to the Bylaws of the State Association concerning osteopathic membership in the Association. Dr. Swanson moved that the Council recommend to the Reference Committee considering this resolution that osteopaths be given the right to vote and to hold office in the State Association. The motion was seconded by Dr. Ruud and failed. Vote: For - 6, Against - 8.

Dr. Howard Saylor, Chairman of the Welfare Commission, appeared before the Council to discuss Title 19 and the Welfare Department. Dr. Saylor requested that the Welfare Commission and the State Medical Association issue a joint news release which will be beneficial for both. Dr. Saylor also requested that the Association appoint a Liaison Committee which can meet and discuss problems with the Welfare Department. Dr. Cosand moved that the State Association issue no further news releases until a joint press



release can be agreed upon between the Association and the Welfare Commission and that the Blue Shield Board be urged to consider similar action. The motion was seconded by Dr. Lushbough and carried. Dr. Lewis appointed Dr. R. H. Quinn, Dr. J. J. Stransky and Dr. Paul Hohm to the Liaison Committee with the Welfare Commission. Dr. Swanson presented a proposed contract, approved by the Pierre District Medical Society, for use by the State Welfare in contracting with physicians under the Title 19 Program. Dr. Lushbough moved that the Council recommend that the Association endorse this contract and that the Welfare Commission be notified of this action at their meeting on Monday, April 26. The motion was seconded by Dr. Seaman and carried. One negative vote was registered.

#### **VENDOR AGREEMENT PHYSICIAN'S SERVICES**

THIS AGREEMENT, made and entered into by and between the State Department of Public Welfare of the State of South Dakota, hereinafter called the Department, and the undersigned, \_\_\_\_\_, of \_\_\_\_\_, hereinafter called the Physician.

#### **A. GENERAL PROVISIONS.**

1. Pursuant to Section 1902 (a) (27) of the Social Security Act and Part 250.21 of Title 45 of the Code of Federal Regulations, which require individual physician agreements with every person or institution providing medical services under the state plan of medical assistance administered by the Department, under Title XIX of the Social Security Act, the Physician represents that he is licensed to practice medicine and surgery in the State of \_\_\_\_\_, and that he desires to participate in the Medical Assistance Program of the Department in accordance with the rules and regulations of the State Public Welfare Commission.
2. The Physician agrees to safeguard information received by him concerning applicants for or recipients of welfare benefits, as required by the Social Security Act; to keep such records as are necessary fully to disclose the extent of the services provided to individuals receiving assistance under the state plan; and to furnish the Department with such information regarding any payments claimed by him for providing services under the state plan, as from time to time requested by the Department in accordance with the law and regulation cited above.
3. This agreement is subject to the Civil Rights Act, prohibiting the withholding of services to any person upon the basis of race, color or national origin, and the Physician agrees to furnish a statement of compliance therewith upon request.
4. This Agreement shall be in effect for a period of two years from its execution provided that notwithstanding such term the Agreement may be terminated by either party upon thirty (30) days notice given in writing by regular mailing.

#### **B. PHYSICIAN'S RESPONSIBILITIES.** The Physician will

1. Require presentation of current identification card by the patient requesting services;
2. Permit free choice of the provider of services by the patient;
3. Guard against unnecessary utilization by welfare recipients, and participate in utilization reviews according to professional practices and standards;
4. Provide services within the scope of the Medical Assistance program and make timely billing for services in accordance with rules and regulations of the Department.
5. Give appropriate credit for amounts met from insurance benefits and accept payments made by the Department as payment in full for the covered services performed (without direct patient billing for services provided under the state plan).

(Continued on Page 38)

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(Continued from Page 37)

C. DEPARTMENT'S RESPONSIBILITIES. The Department will

1. Provide the Physician with information concerning the scope of benefits provided, and applicable rules and regulations concerning medical services, including timely notification of proposed and adopted changes;
2. Issue appropriate identification cards to recipients and advise them of the necessity to present such identification and number to the Physician at the time services are requested;
3. Provide information and advice to recipients concerning the scope and limitations of medical or remedial care benefits to which they are entitled;
4. Reimburse Physicians for covered services provided to eligible individuals upon the basis of usual, customary and prevailing charges in accordance with rules and regulations of the Department; it being further understood that the determination of charges as usual, customary and prevailing is to be established according to 1969 levels of payment upon receipt of suitable profile information concerning participating Physicians under the Medical Assistance Program of the Department.
5. Provide claims review of disputed charges upon request of the Physician, such review to be directly handled by the consulting Physician of the Department in cooperation with the proper committee of the South Dakota Medical Association.

IN TESTIMONY WHEREOF, the parties hereto have executed the within and foregoing agreement, to be effective as of \_\_\_\_\_, 19\_\_\_\_\_.

Date signed \_\_\_\_\_

Physician \_\_\_\_\_

Date approved \_\_\_\_\_

STATE DEPARTMENT OF PUBLIC WELFARE

By \_\_\_\_\_

Director, Medical Administration

Dr. Elston moved that the Council approve the loan in the amount of \$40,000 from Blue Shield for the 1970 building addition. The motion was seconded by Dr. Stransky and carried.

The Council considered physicians to be recommended to the Governor for the South Dakota State Board of Medical and Osteopathic Examiners. Dr. Bartron moved that the Council recommend the reappointment of J. W. Donahoe, M.D. The motion was seconded by Dr. Tracy and carried. Dr. Swanson moved that M. M. Morrissey, M.D. be recommended as second choice. The motion was seconded by Dr. Reaney and carried. Dr. Taylor moved that Bernard C. Gerber, M.D. be recommended as third choice. The motion was seconded by Dr. Seaman and carried. Dr. Tracy moved that the Governor be informed that these three physicians are members in good standing of SDSMA and whoever is appointed to the Board be a member in good standing of the State Medical Association. This motion was seconded by Dr. Elston and carried.

Dr. C. L. Swanson proposed G. J. Van Heuvelen, M.D. for honorary life membership in the State Association. The motion was seconded by Dr. Reaney and carried.

Dr. Quinn discussed the situation concerning a South Dakota physician and medical ethics. Dr. Stransky moved that a committee be appointed to gather information concerning the physician's activities and report to the Council. The motion was seconded by Dr. Taylor and carried. Dr. Lewis appointed Dr. J. T. Elston, Dr. E. T. Ruud and Dr. Duane Reaney to this committee.

R. B. Leander, M.D. spoke on SoDaPAC activities and requested that the Association make a donation to the SoDaPAC Educational Fund. Dr. Leander reported that dues this year will be \$35 for husband

and wife or \$20 for individual membership. Dr. Reding moved that the Association donate \$1,500 to SoDaPAC for educational purposes. This motion was seconded by Dr. Quinn and carried.

The Council considered a request from the Medical Assistants Society for financial aid to send delegates to the annual meetings. Dr. Taylor moved that the Association donate \$100 to the Medical Assistants Society to assist in sending delegates to national meetings. The motion was seconded by Dr. Lushbough and carried.

The Council reviewed a letter from Gaylen Holmes regarding a Hearing Screening program sponsored by the Elks Lodge. Dr. Quinn moved to reaffirm the Association's endorsement of this program. The motion was seconded by Dr. Bell and carried.

The Council considered a request from the AMA for nominations to various federal advisory positions. Dr. Quinn moved that the Council nominate Donald H. Breit, M.D. to the Committee on Radiological Health Study Section. The motion was seconded by Dr. Bartron and carried. Dr. Quinn moved that Robert Hayes, M.D. be nominated to the Indian Health Advisory Committee. The motion was seconded by Dr. Tracy and carried. Dr. Quinn moved that R. B. Leander, M.D. be nominated to the National Advisory Mental Health Council. The motion was seconded by Dr. Bartron and carried. Dr. Quinn moved that H. Russell Brown, M.D. be nominated to the Health Insurance Benefits Advisory Council. The motion was seconded by Dr. Bartron and carried. Dr. Quinn moved that L. J. Sweeney, M.D. be nominated to the Mental Retardation Project Review Committee. The motion was seconded by Dr. Reding and carried. Dr. Lushbough moved that Paul Hohm, M.D. and T. H. Sattler, M.D. be considered for nomination to the Regional Medical Programs Review Committee. The motion was seconded and carried.

The Council considered appointments to the Medical School Endowment Association. Dr. Stransky moved that the Council reappoint E. H. Peters, M.D.; G. E. Tracy, M.D.; Warren Jones, M.D.; B. O. Lindbloom, M.D.; F. R. Williams, M.D.; C. R. Herbrandson, M.D. and T. H. Willcockson, M.D. to the Medical School Endowment Association Board. The motion was seconded by Dr. Taylor and carried.

Dr. Muggly moved that Paul Hohm, M.D. be appointed chairman of the Executive Committee of RMP-CHP. The motion was seconded by Dr. Leigh and carried.

The Council considered Dr. James P. Steele's request that the Council nominate him for membership on the AMA's Council on Medical Education. Dr. Reaney moved that the Council recommend Dr. Steele's appointment to the AMA Council on Medical Education. The motion was seconded by Dr. Reding and carried.

The Council considered the request from the Greater South Dakota Association for funds up to \$26,400 for the implementation of Phase II of the Tax Action Program. Dr. Bartron moved that the Association strive to underwrite \$10,000 to support Phase II of the Tax Action Program by soliciting the individual districts and the utilization of reserves available in the Association and other sources, however, a definite monetary commitment should not be made to the Greater South Dakota Association at this time. The motion was seconded by Dr. Bell and carried. Dr. Tracy moved that the Association request individual contributions in the amount of \$50 per member. The motion was seconded by Dr. Quinn and carried.

Dr. Leigh announced that funding may be forthcoming shortly for the MECO project.

Mr. Erickson reminded the Councilors of the next Council meeting to be held Thursday, May 20, in Rapid City, prior to the opening of the annual meeting.

Dr. Taylor moved that the meeting be adjourned. The motion was seconded by Dr. Leigh and carried.



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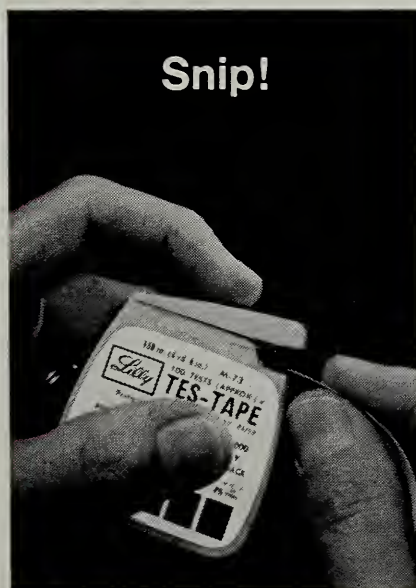
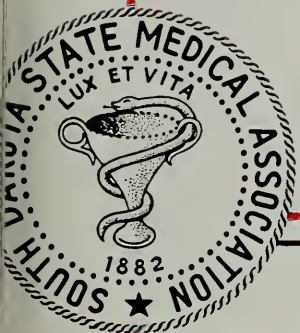
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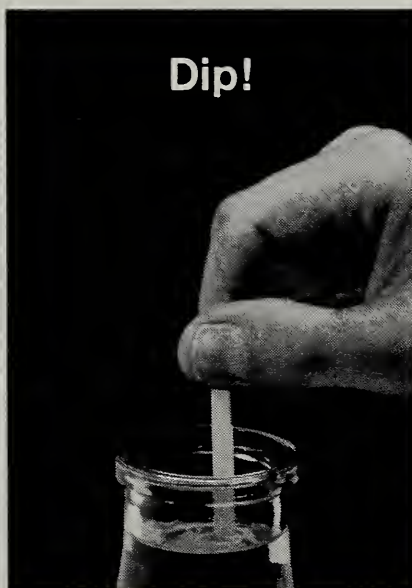
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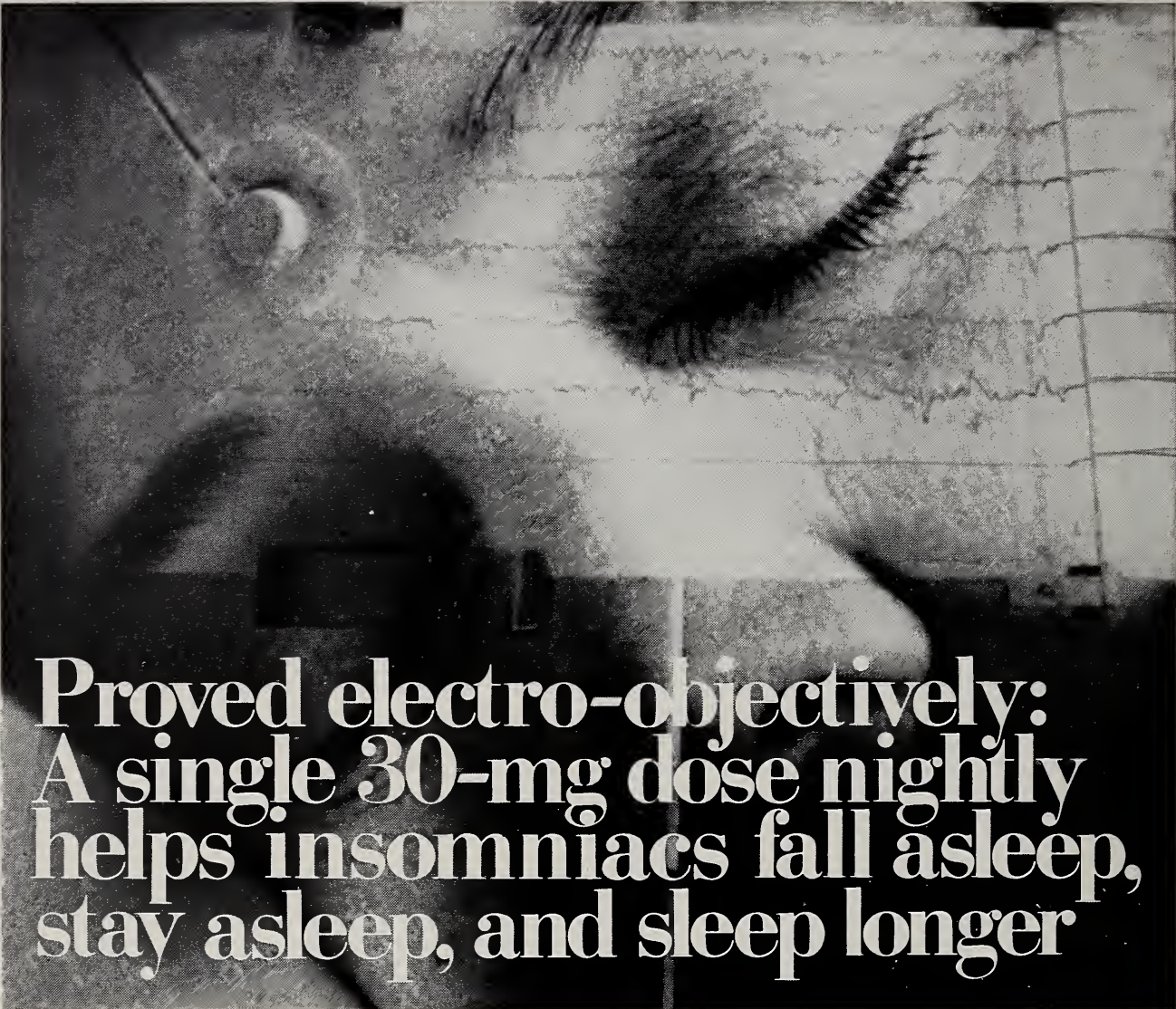


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## **Confirmed clinically**

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Fifty-three controlled studies using a paired-night, double-blind crossover design have evaluated Dalmane clinically. In the majority of these, Dalmane (flurazepam HCl) significantly reduced sleep induction time and increased sleep duration. Dalmane and a placebo were alternated on successive nights in 2010 insomniacs, 1706 of whom were studied for a single night-pair, and the remainder for as many as fifteen paired-nights. A patient preference for Dalmane was apparent in the paired-night studies.

Dalmane was also preferred to certain hypnotics in two separate preference studies. In each of two double-blind studies, Dalmane 30 mg retained effectiveness for the total period of seven consecutive treatment nights, according to subjective/objective evaluations.



In summary, Dalmane is useful in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening. It can be used effectively in patients with recurring insomnia or poor sleeping habits, and in acute or chronic medical situations requiring restful sleep.

---

### Dalmane (flurazepam HCl) is generally well tolerated

---

In most instances in which adverse effects with Dalmane were reported, they were mild, infrequent and seldom required discontinuation of the drug. Dizziness, drowsiness, lightheadedness and the like were the side effects most frequently noted, particularly in elderly or debilitated patients.<sup>3</sup> Instances of hepatic dysfunction, paradoxical reactions (excitement) and hypotension are rare with Dalmane, and morning hang-over is relatively infrequent. In studies to date the effectiveness of Dalmane for recommended periods of use is maintained without need to increase dosage.

**References:** 1. Kales, A., et al.: "Effectiveness of Sleep Medications: All-Night EEG Studies of Hypnotic Drugs," in Proc. 7th Internat. Cong. Electroencephal. and Clin. Neurophysiol., San Diego, Calif., Sept. 13-19, 1969. 2. Kales, A., et al.: "Psychophysiological and Biochemical Changes Following Use and Withdrawal of Hypnotics," in Kales, A. (ed): *Sleep: Physiology and Pathology*, Phila., Lippincott, 1969, p. 331. 3. Data on file, Medical Department, Hoffmann-La Roche Inc.

**Before prescribing, please consult Complete Product Information, a summary of which follows:**

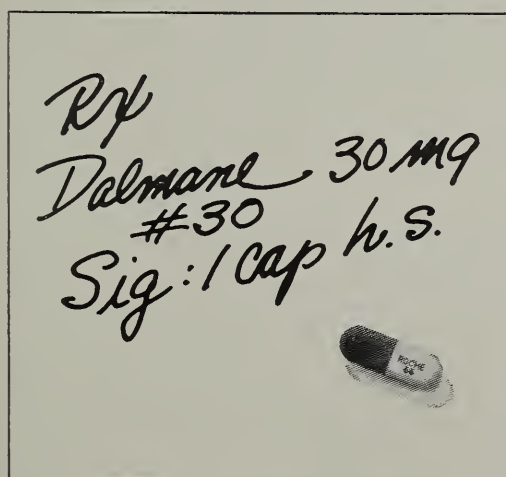
**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.



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# CONTENTS

Volume XXIV

July 1971

Number 7

Peripheral Neuropathy and Central Nervous  
System Lesions in Canine Globoid-Cell  
Leukodystrophy (Krabbe's Disease) . . . . . 5

Harold J. Kurtz, D.V.M., Ph.D.;  
Thomas F. Fletcher, D.V.M., Ph.D.

Brain Abscess . . . . . 13  
S. Sochocky, M.D.

Statement on Venereal Disease . . . . . 18  
Council on Environmental and Public Health, AMA

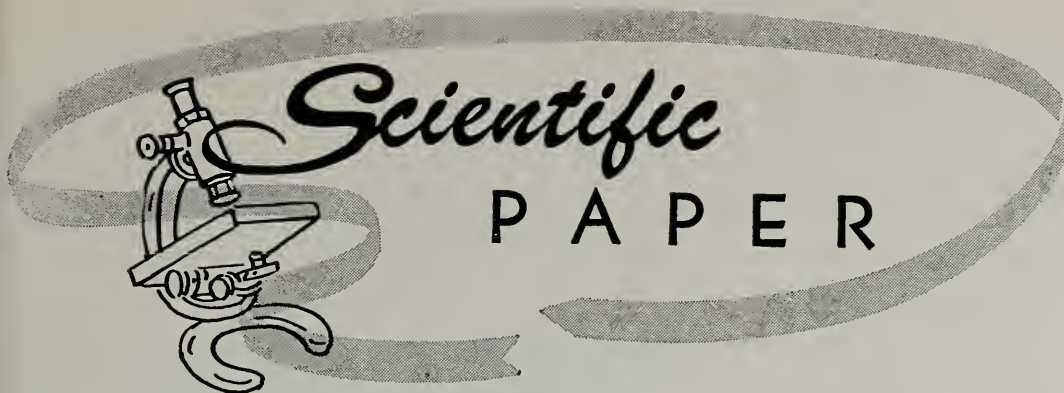
President's Page . . . . . 20

Clinicopathological Conference . . . . . 25

Editorial: Alcohol Detection Tests:  
A Source of Error . . . . . 30

This Is Your Medical Association . . . . . 33





## PERIPHERAL NEUROPATHY AND CENTRAL NERVOUS SYSTEM LESIONS IN CANINE GLOBOID-CELL LEUKODYSTROPHY (KRABBE'S DISEASE)\*

Harold J. Kurtz,<sup>1)</sup> D.V.M., Ph.D. and  
Thomas F. Fletcher,<sup>2)</sup> D.V.M., Ph.D.

### Introduction:

Globoid-cell leukodystrophy (GLD) was first described in 1916 by Knud Krabbe.<sup>1</sup> He reported clinical and histopathologic findings in two human siblings who died from a progressive disease involving the white matter of the central nervous system. More than 30 human infants with Krabbe-type leukodystrophy have since been recorded in the literature. Siblings of both sexes have been affected in several families and recessive inheritance is suggested by the fact that parents have been asymptomatic. The clinical histories of these cases reveal infants who begin to retrogress at an average age of 4 months; death occurs on the average of 10 months later. The duration of illness ranges from 9 to 23 months.

The term leukodystrophy connotes an inherited inability of glial elements to nurture myelin.<sup>2</sup> The designation "globoid cell" refers to the appearance of reactive macrophages and distinguishes GLD from other types of leukodystrophies (metachromatic, sudanophilic). The hall-

mark of Krabbe's disease is the globoid-type macrophage. These macrophages (globoid-cells) have large quantities of foamy-type cytoplasm and are occasionally multinucleate. Phagocytized material in these macrophages stains positive by Periodic Acid Schiff-method, is non-metachromatic and non-sudanophilic — features which distinguish GLD from other types of leukodystrophy.<sup>3</sup> Recent studies have revealed that in human cases of Krabbe's disease the peripheral nerves undergo pathologic changes.<sup>4, 5, 6, 7</sup>

### Canine Globoid-Cell Leukodystrophy:

Recently, animal models have been reported which mimic the human demyelinating disease. GLD has been discovered in Cairn Terrier and West Highland Terrier dogs<sup>8, 9, 10, 11</sup> and in cats.<sup>12</sup>

With selected matings, a colony of dogs possessing the genotype for GLD has been developed at the College of Veterinary Medicine, University of Minnesota. Fifteen offspring from the colony have been affected with globoid-cell leukodystrophy.

In affected litters of this particular line of breeding, the ratio of normal to affected dogs is approximately 3 to 1 with both sexes equally involved, thus the disease in the dog seems to be inherited as a simple autosomal recessive trait. The clinical onset of the disease occurs between 2 to 7 months of age and death follows after a clinical course varying from 2 to 3

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\* Presented by the senior author at the Twelfth Annual Midwest Interprofessional Seminar on Diseases Common to Animals and Man, South Dakota State University, Brookings, South Dakota, September 3-4, 1970.



months. The clinical features in the dog are characterized by initial signs of a pelvic limb ataxia. This is manifested by stumbling over steps, misplacement of the pelvic limbs, especially when turning sharply, and eventually a delayed, sluggish, hopping reflex. There is a tendency for the limbs to slide laterally on slippery surfaces due to delayed postural adjustments. Deficits restricted to the pelvic limbs result mainly from spinal cord demyelination.

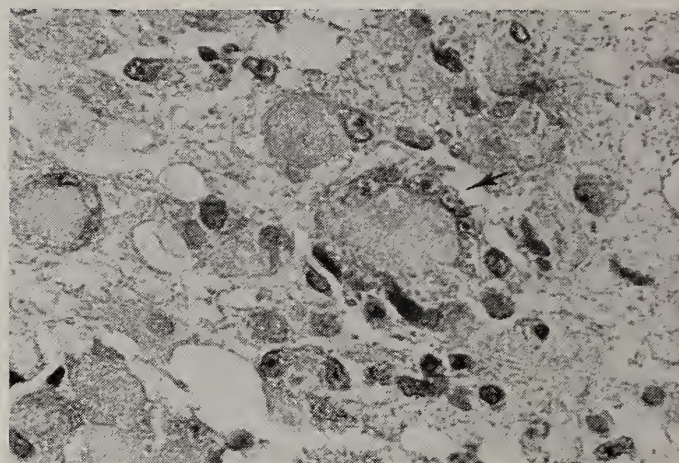
Usually cerebellar signs follow next in the syndrome. These are manifested by a hypermetric gait, primarily of the thoracic limbs, and by tremors especially of the head. The combined cerebellar and spinal cord deficits produce a more exaggerated incoordination of the pelvic limbs. Signs of cerebral deficits generally appear later in the syndrome. Personality changes progress to a dull, passive, oblivious attitude. The intensity and rapidity of these clinical signs vary among cases. All affected animals die after a clinical course of approximately 2 to 3 months.<sup>13</sup>

Lesions in the dog are restricted to the central and peripheral nervous system. There is extensive demyelination and axon destruction in the affected white matter of the brain and spinal cord along with similar degeneration in the peripheral nerves. The staining reactions of the globoid-type macrophages in nervous tissue of affected dogs are similar to the staining reactions of globoid cells occurring in human GLD.

Histologically in the brain there is symmetrical demyelination of white matter in the cerebral hemispheres and cerebellum. The pyramidal tracts, pons and trapezoid body are less severely involved, and smaller tracts of the brainstem are generally spared. In severely affected areas there is an extensive lack of axons and

marked astrocytosis is evident. Large globoid-type macrophages are scattered throughout the demyelinated areas and perivascular cellular accumulations are prominent (Fig. 1). A few globoid-type macrophages are multinucleated with the nuclei occupying the periphery of the cell (Fig. 2). No granulocytes are present but occasional plasma cells are seen.

Figure 2.



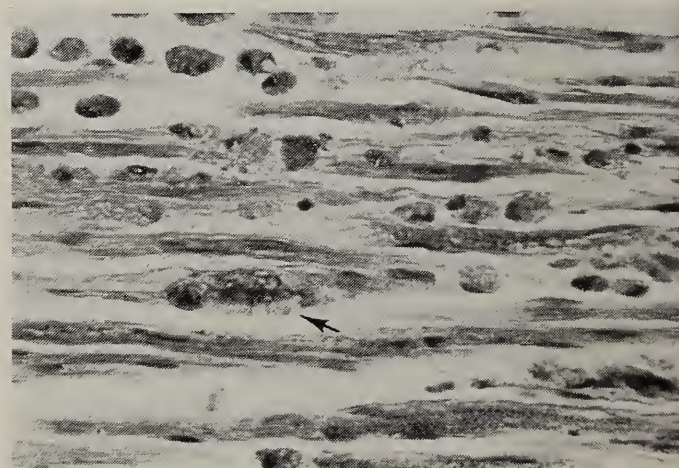
Multinucleate globoid-type cell (arrow) in brain of dog with Krabbe's disease. H & E stain x512.

The white columns of the spinal cord have changes similar to the white matter of the brain. There is destruction of axons and demyelination with many globoid-type macrophages present and forming collars of PAS-positive cells around vessels. The grey matter of the brain and spinal cord has a normal architecture, but the leptomeninges contain globoid cells and the spinal roots are severely degenerated.

The peripheral nerves are affected in dogs with GLD.<sup>14</sup> Large globoid-type macrophages which have abundant, foamy, PAS-positive cytoplasm are within the endoneurium. (Fig. 3).

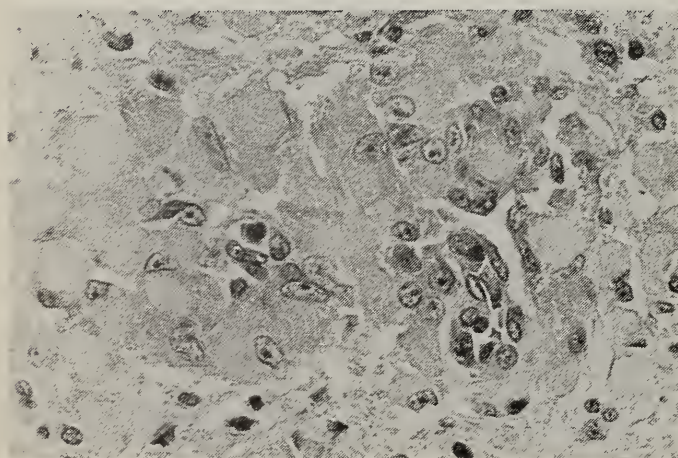
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Figure 3.



PAS positive macrophages in endoneurium and segmental demyelination with "digestion" vacuole (arrow) in peripheral nerve of dog with Krabbe's disease. Luxol blue — PAS stain x512.

Figure 1.



Perivascular accumulation of globoid-type macrophages in brain of dog with Krabbe's disease. H & E stain x512.



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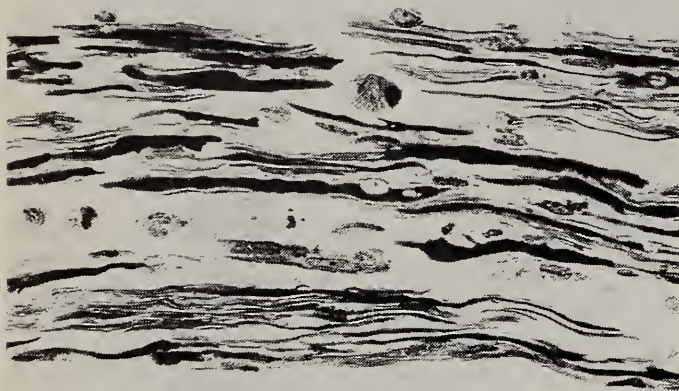
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(Continued from Page 6)

Segmental demyelination is extensive with aggregates of myelin in nerve sheaths forming "digestion" vacuoles. Axons are degenerate with segmental loss, swollen axis cylinders and vacuolation (Fig. 4).

Figure 4.



Degenerate axons in peripheral nerve from dog with globoid-cell leukodystrophy. The axons are swollen and fragmented. Holmes Silver-PAS stain x512.

#### Pathogenesis of Globoid-Cell Leukodystrophy:

Both man and dog afflicted with GLD have an inherited deficiency of the catabolic enzyme cerebroside B-galactosidase.<sup>15, 16</sup> As a result of the enzyme deficiency, macrophages cannot degrade galactocerebroside which accumulates as PAS-positive material in the cytoplasm of globoid-type macrophages. Ultrastructurally in man<sup>17</sup> and dog,<sup>18</sup> the galactocerebroside appears as collections of inclusion tubules in the cytoplasm of globoid cells.

How the inherited enzyme deficiency leads to the breakdown of nervous system white matter is the major unknown facet of this disease. The experimental options that are available in studying dogs with GLD are promising for further understanding of GLD. In addition, knowledge obtained from dogs with GLD should have application to other human leukodystrophies

and probably to other sphingolipid storage diseases.

#### SUMMARY:

Animal models play an important role in the study of the pathogenesis of human diseases. Canine globoid-cell leukodystrophy provides us with a laboratory model uniquely suited for further scientific investigation of the counterpart human disease.

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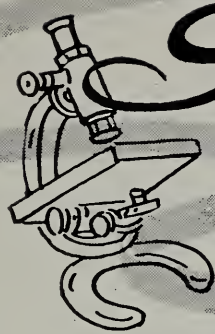
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# Scientific

# PAPER

## BRAIN ABSCESS

by

S. Sochocky, M.D.<sup>x</sup>

Brain abscess is almost always secondary to a focus of suppuration elsewhere in the body and may develop either by contiguous infection, trauma or hematogenous route. Infections of ear as chronic otitis media or of nasal cavities, frontal, ethmoidal and sphenoidal sinuses commonly produce abscess in brain by contiguous spread. Abscess due to a spread of disease from ear is usually located in temporal lobe but may be in cerebellum, rarely occurs in other parts of brain. The abscess situated in the frontal lobe of brain is most often secondary to infections of frontal and ethmoidal sinuses. According to Miller,<sup>1</sup> infections of nasal cavity and sinuses are responsible for about 20 per cent of intracranial abscesses.

Brain abscess may also be due to direct infection as trauma or missile. Brain abscess may also develop by hematogenous route secondary to disease of lungs, as in bronchiectasis, empyema of pleura. Brain abscess very seldom follows an acute pulmonary infection. In Collis'<sup>2</sup> series of 44 cases no brain abscess was seen following an acute pulmonary infection.

He also found brain abscess occurred following thoracotomy performed for lung suppuration. The interval between onset of lung infection and appearance of signs of brain abscess varies. According to Cohen,<sup>3</sup> the lung abscess was found between 4 months to 4 years before the onset of brain abscess. In Collis'<sup>2</sup> series, the average interval was 7 months. In

our series,<sup>4</sup> of 95 cases of lung abscess of pyogenic origin no patient developed brain abscess up to 4 years follow up. Also in our series,<sup>5</sup> of 30 cases of pyogenic non-tuberculous empyema of pleural cavity in which 10 patients had decortications, no patient developed brain abscess. Brain abscess secondary to suppuration of lung is now rarely seen due to wide use of broad spectrum antibiotics.

Brain abscesses developed in 2 per cent of Perry and King's<sup>6</sup> 400 cases of bronchiectasis. Metastatic abscess secondary to lung disease, usually multiple, occurs chiefly in frontal, parietal and occipital parts of brain, rarely in temporal parts or cerebellum.

The brain abscess may also develop by hematogenous route secondary to congenital heart disease, bacterial endocarditis and pulmonary arterio-venous fistula. In congenital heart disease with large arterio-venous shunt brain abscess seems to be especially common. Congenital heart disease as Fallot's tetralogy causes brain abscess, usually single, and said to be more frequent on the right side than left. Regina Gluck<sup>7</sup> et al. reported a series of 44 cases of brain abscess associated with congenital heart disease in patients aged 3 - 57 years. From 44 patients, 20 were diagnosed as having Fallot's tetralogy. Brain abscess may be associated with pulmonary arterio-venous fistula as reported by William R. Chambers.<sup>8</sup> However, according to Miller,<sup>1</sup> there are 5 - 15 per cent of cases of brain abscess in which no cause could be found, either on physical examination or at autopsy.

<sup>x</sup> Department of General Medicine, Veterans Administration Center, Sioux Falls, S. D. Assistant Professor of Internal Medicine, University of South Dakota School of Medicine.



The organisms responsible for brain abscess are numerous: various bacteria, fungus, as *staphylococcus aureus*, *streptococcus*, *pneumococcus*, *typhoid bacillus*, *aspergillus fumigatus*, *actinomyces*, *pyocyaneus*, *proteus vulgaris*, *Friedlander's bacillus*, *hemophilus influenza*, and others. Brain abscess develops in white matter which has poor blood supply in contrast to the cortex and passes through all the stages of development as in a boil. There is an area of inflammation with necrotising center and subsequently pyogenic wall is formed. The time necessary for formation of wall depends on violence of organism, resistance of tissue and treatment.

#### Clinical Manifestations:

Signs and symptoms are due to raise in intracranial pressure, focal disturbances of brain function and constitutional symptoms due to infection. Symptoms of raised intracranial pressure are usually headache, vomiting, disturbances of vision. The headache is usually worse in morning and wears off as day progresses. Headache may wake patient from sleep but varies a great deal in intensity from patient to patient. Morning nausea and vomiting may not be related to meals and may relieve pain

temporarily. Mental dullness, drowsiness progress steadily to stupor and coma. Visual disturbances, blurred vision, progressive failure of vision may be present. An abscess which has been gradually expanded within enclosed space of skull produces symptoms by increasing intracranial pressure and by local compression of neighboring structures. Symptoms and signs of brain abscess depend on localization, size and region of brain involved. The focal symptoms vary from irritative to destructive effects on surrounding tissues. Abscess in frontal lobe may reach quite a large size before producing symptoms as progressive deterioration of personality or intellect. Abscess in temporal lobe may cause a homonymous defect in visual fields, contralateral hemiparesis, seizures. Dysphasia may develop if lesion is in dominant hemisphere. A cerebellar abscess may cause nystagmus, ataxia and impaired co-ordination. General symptoms as fever, malaise, rigors, pallor, leucocytosis and increase in sedimentation rate may be present.

#### Laboratory Data:

Complete blood count usually shows an increase in number of white cells, elevated white cell count and sedimentation rate. Spinal fluid usually clear but pressure elevated. Spinal fluid

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contains increased number of white cells, usually between 100 - 500 cells per cubic millimeter, leucocytes usually predominate. Protein content usually elevated but sugar remains within normal limits.

#### Diagnosis:

In differential diagnosis any other space occupying lesion should be taken into consideration as e.g. extradural or subdural abscess, primary or metastatic neoplasm, cerebral infarction, pyogenic meningitis, sinus thrombosis or embolism. Brain abscess may simulate symptoms of cerebral vascular disease and if anticoagulants are given result may be fatal intracranial hemorrhage as described by Michael Abbott<sup>9</sup> et al.

In diagnosis a history, especially of any infection in body, age, physical examination; investigations should include routine x-ray of chest, skull, paranasal sinuses and mastoid views. The shift in pineal gland may indicate presence of a space occupying lesion. Examination of spinal fluid may show an increase of pressure, increased number of white cells and total protein is also increased. Electroencephalogram may show delta waves slow and of high voltage with phase reversals present over the site of brain abscess. Cerebral angiography, brain scanning, ventriculography may provide adequate information about localization of an abscess. Echoencephalography is a simple, harmless, accurate method of demonstrating a shift of middle structures. The final diagnosis rests on aspiration of pus from brain abscess.

#### Treatment:

The systemic administration of wide spectrum antibiotics should be given before surgical procedure, as drainage or excision. The use of chemotherapy with early use of surgical treatment causes mortality rate to drop considerably. Statistics show mortality rate in pre-antibiotic era vary between 50 - 80 per cent, however, following use of antibiotics there has been a reduction to 30 - 40 per cent. Liske and Weikers<sup>10</sup> reported a mortality rate of 50 per cent in a series of 110 patients with intracranial abscess. In 93 patients who had surgery there was a survival of 49.5 per cent. Kiser and Kendig<sup>11</sup> reported an operative mortality of 32 per cent.

#### History of case:

This 15 year old female was admitted with a diagnosis of tuberculous meningitis, for treatment.

#### History of present illness:

She had never been seriously ill in her life. While attending school she developed convul-

sions 3 weeks prior to admission and remained under the care of her family doctor. As her condition steadily deteriorated and she noted loss of use of her right upper limb, she was admitted to hospital. On admission she complained of headache, vomiting, chills, night sweats and loss of use of her right upper limb.

#### Physical examination:

Neurological examination revealed cranial nerves within normal limits, pupils reacted to light and accommodation, fundi showed no evidence of papilledema. There was a mild rigidity of neck, a paresis in right upper limb, no sensory changes, Babinski negative. Chest movements good and equal on both sides and rhonchi heard in both lower portions of lungs. Heart sounds normal, temperature was 98.8 degrees, pulse 90 beats per minute, regular and good volume. Blood pressure 120 mm Hg. systolic over 70 diastolic; examination of other systems of the body was not remarkable.

#### Family and past histories:

There was no history of infections of skin, ears, nose, chest or kidneys during the last year. Her father has been treated simultaneously for active pulmonary tuberculosis in sanatorium; otherwise family history was not contributory.

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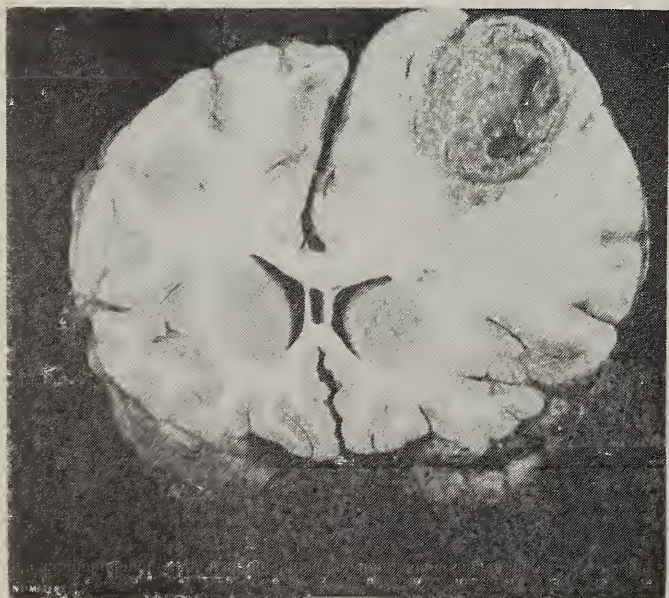
Skin test OT 1:2000 positive, 15 mm in diameter. Complete blood count and urinalysis within normal limits. Sputum negative on direct smear and culture for tubercle bacilli. Spinal fluid clear, increased pressure up to 44 cm, protein 33 grams per cent, glucose 72 milligrams per cent; cell count 350, segments 42, lymphocytes 58. Spinal fluid negative on direct smear and culture for pyogenic organisms, fungi, tubercle bacilli and no malignant cells were found. "Chest X-ray negative but X-ray of skull showed the petrous ridge on the left was less distinct than normal and less distinct than that of the opposite side."

### Treatment:

She received streptomycin 1 gram, isoniazid 400 milligrams daily and penicillin 1 million units four times daily. Her progress was satisfactory, right upper arm improved and temperature was never above 99 degrees. She suddenly died on eighth day after admission.

Post-mortem report as follows—"Central nervous system: 1. Encephalomalacia with diffuse cerebral edema and large frontal lobe abscess (Staph. Aureus coagulase positive). (See Figure 1). 2. Focal meningitis, left frontal cortex. The leptomeninges are slightly cloudy and slightly injected. The gyri are somewhat flattened and the brain substance is soft throughout. A groove in the left hippocampal gyrus extends 2-3 cm posteriorly. A large abscess cavity ( $7\frac{1}{2} \times 3\frac{1}{2} \times 5$  cm) that is filled with thick yellow-green purulent material is found in the left frontal lobe

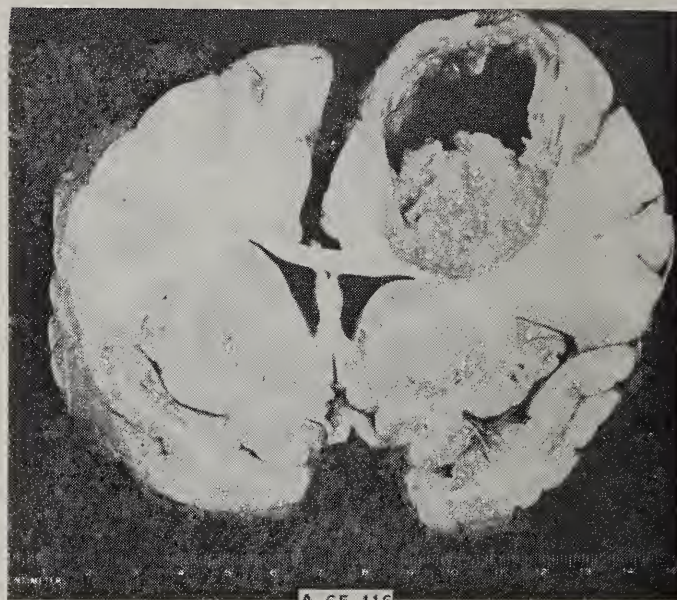
Figure 1.



Photograph shows a large abscess in left frontal lobe.

with extension posteriorly to the parietal lobe (See Figure 2). The cavity does not communicate with the subarachnoid space grossly, but extends to within several millimeters of the

Figure 2.



Photograph shows a large abscess cavity in left frontal lobe.

surface of the prefrontal area. There is no extension into the ventricular system. Staphylococcus Aureus coagulase positive was cultured from the brain abscess, swab from lung, and heart blood. No evidence of pulmonary tuberculosis or meningitis was found. There was a chronic granulomatous inflammation in one mediastinal lymph node suggesting a previous tuberculous infection but no acid fast organisms could be found."

### Comment:

As there was a history of pulmonary tuberculosis in her family and she had a strongly positive OT test, a presumptive diagnosis of tuberculous meningitis was accepted on admission. Later diagnosis was corrected to space occupying lesion of brain, most likely tuberculoma.

Diagnosis of tuberculoma of the brain is based on history, skin tests. Symptoms are those of any expanding lesion of brain. Symptoms usually include manifestations of increase in cranial pressure, namely visual difficulties, headache, convulsion and specific neurological deficit are common. Roedenbeck<sup>12</sup> treated 32 patients with tuberculoma with drugs only, 26 survived, 3 completely well. According to him, treatment with drugs is the only effective means of treatment but according to other authors treatment



with anti-tuberculous drugs supplemented by surgery is necessary.

The abscess of the brain was not suspected as there was no history of any infection and physical examination was negative.

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## ROLE OF NURSE-MIDWIFE ON MATERNAL CARE TEAM

Qualified nurse-midwives would have responsibility for the complete care and management of uncomplicated maternity patients if the recommendations of the American College of Obstetricians and Gynecologists, the Nurses Association of ACOG, and the American College of Nurse-Midwives are adopted. The three organizations recently issued a joint statement calling for cooperative efforts by teams of physicians, nurse-midwives, obstetric registered nurses, and other health personnel in which the functions and responsibilities of team members are clearly defined according to their education and training. "The College feels that problems of manpower are the most acute we face in the health care of women," Dr. Michael Newton, director of ACOG, said.



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## STATEMENT ON VENEREAL DISEASE\*

The American Medical Association Council on Environmental and Public Health reports that gonorrhea ranks first and syphilis third among the reportable communicable diseases in the United States. For the year ending June 30, 1970, infectious syphilis rates were eight percent higher nationally than a year earlier, with annual increases spread over 33 states and an estimated incidence between 70-80,000 reported cases; there are 250,000 cases of all forms of syphilis estimated to be diagnosed and treated each year.

At the same time, gonorrhea morbidity exceeded 573,000 reported cases. Gonorrhea is pandemic in the United States, with an estimated two million cases.

The Council urges medical societies to acquaint their membership with the growing and alarming dimensions of the VD problem. Physicians should take all appropriate measures to reverse the rise in venereal disease and bring it under control.

Physicians in private practice treat approximately 80 per cent of the syphilis and gonorrhea that comes to diagnosis but report to public health departments only one out of every eight cases of syphilis and one out of every nine cases

of gonorrhea they treat. Physicians should assist public health departments by reporting the VD cases they treat. Medical societies are urged to cooperate and give broad support to public health authorities. Much effort must still be made by health departments and medical societies to foster mutual trust so that public and private medicine can work effectively for the control of both syphilis and gonorrhea.

The Council also urged medical societies to continue efforts for the enactment of state laws to permit physicians legally to treat VD cases of minors without obtaining parental consent. Currently, 35 states have laws and 6 states have attorneys general's opinions permitting treatment of minors for VD without permission of parents. Such sanction is not provided in the states of Alabama, Arizona, Georgia, Mississippi, Minnesota, Missouri, Ohio, Wisconsin, and Wyoming.

There are also 11 states which do not have laws or regulations requiring all serological laboratories to report reactive specimens by name of patient and physician to the health department. They are Alaska, Arkansas, Colorado, Idaho, Indiana, Louisiana, Maine, Massachusetts, North Dakota, South Dakota, and Washington. Experience has shown that many serologic laboratories refuse to report names of re-

\* By Council on Environmental and Public Health, American Medical Association.

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actors to the health department until it is required by law or regulation.

The American Medical Association is making VD a national theme for Community Health Week - 1971, with suggested dates of October 17-23. Informational and promotional material will be available for medical societies. The AMA publication **PR Doctor**, January 1971, featured the problem of venereal disease, which included reports of excellent programs underway by state medical societies.

The Council encourages the publication of more articles in professional journals on venereal disease and its control for the guidance of the profession. Medical societies are asked to support education of patients and the public through more extensive and imaginative use of all available media and through school curricula.

**ORAL CANCER RISK INDEX MAY BE  
IN OFFING**

Some day it may be possible to develop an oral cancer risk index based on carcinogenic or cancer-triggering agents to predict which persons will be most susceptible to oral cancer, two dental scientists reported in the March **JOURNAL OF THE AMERICAN DENTAL ASSOCIATION**. Drs. John F. Nelson of Rockville, Md., and Irwin J. Ship of Philadelphia, said that a risk index could be derived from epidemiological studies aimed at examining variable factors that may bear a relationship to the development of oral cancer.

**WOMEN KEY TO "MANPOWER"  
SHORTAGE**

If outmoded prejudices were removed, women could contribute greatly to the "manpower" shortage in the health field, according to Dr. Arthur M. Sackler, chairman of the International Task Force on World Health Manpower. "If we are to utilize the real potential of women in health care, the barriers to greater recognition and fairer compensation must be removed," he said. "This is true for countries on virtually all continents." Dr. Sackler noted that women make up three-fifths of the world's medical workers and four-fifths of the U. S. health care workers. The task force was recently organized by leading physicians and scientists to assist the World Health Organization in coping with the crisis in health care.

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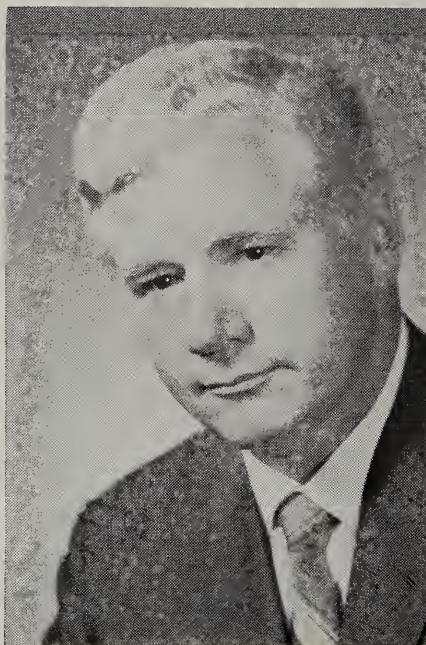
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# P R E S I D E N T ' S P A G E



As practicing physicians and members of our association we have both personal and professional obligations to take an active interest in public affairs and particularly in those projects which affect us. Such a project, I believe, is TIP — the Tax Information Program sponsored by the Greater South Dakota Association and co-sponsored by more than thirty other state-wide organizations.

TIP is just what the initials denote: a program to assemble all possible information needed to devise an equitable, fair and productive tax reform program, relying upon computerization to amass, arrange and dispense this data as needed. Out of this will come a detailed reform program which, we have been assured, will be ready for examination by next November 15.

TIP, in my opinion, represents the first really systematic investigation into true tax reform, one which will provide a truly equitable representation of all tax-paying segments. It embodies the medical profession's best possible chance to be equitably and fairly represented in any reform plan.

I recommend it to you as a program which deserves support at this time, both vocally and financially as the opportunity presents itself. New tax measures proposed up to this time, as you are well aware, put the practicing physician in an unfavorable position and might leave him burdened with a disproportionate share of the total tax load.

I am confident you share the general conviction that South Dakota is badly in need of effective tax restructuring. I believe TIP offers our best chance of achieving it.

G. R. BARTRON, M.D., President





# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



DR. H. P. GROSS, M.D.\*  
*Orthopedic Surgeon-Discusser*

JOHN F. BARLOW, M.D., FCAP\*\*  
*Pathologist-Editor*

## SIXTY-FOUR YEAR OLD MAN WITH SEVERE BACK PAIN OF FIVE DAYS DURATION

### CASE NO. 493059

This 64-year old dentist entered Sioux Valley Hospital with a chief complaint of severe back pain of 5 days duration.

The pain was preceded for several days by fleeting pains in the left buttock but he was awakened five days prior to admission with severe pain in the right buttock which radiated down the back of the right leg into the foot. Coughing and sneezing worsened the pain and codeine and muscle relaxants partially relieved the pain which was persistent. The pain increased in severity necessitating hospital admission. Soon after admission he developed a swollen, red, warm, painful right ankle joint. The back pain and ankle pain and swelling subsided somewhat when the patient developed a swollen, red, warm, right knee joint.

Past history revealed that the patient had had mild low back pain previously relieved by heat and rest. He was actively practicing dentistry. There was no history of joint disease in the family but diabetes mellitus was present on the maternal side. A younger brother was an orthopedic surgeon. There was no previous history of heart disease or joint disease.

**Physical examination:** Blood pressure 106 systolic, 56 diastolic, pulse 84 and regular, respirations 20/minute, temperature 98.2°F. The patient was well developed and well nourished, 5'8" tall and weighed 170 lbs. There was no ab-

normality of the head and neck. The chest was clear to auscultation and percussion. The heart had a normal rhythm with no murmurs. There were no organs or masses on abdominal examination. The rectal examination revealed an enlarged smooth symmetrical prostate gland. The neurologic examination showed good toe strength and active equal stretch reflexes. There was localized tenderness about the medial malleolus. The knee was swollen and tender.

**Clinical pathologic data:** Urinalysis — straw colored, turbid, specific gravity 1.024, pH 5.0, negative for protein, glucose, ketones, hemoglobin. The sediment showed 0-1 leukocytes/hpf, 1-3 erythrocytes/hpf and 0-1 hyalin casts/lpf. Hemoglobin was 14.4 gm%, red count 5.12 million/mm,<sup>3</sup> hematocrit 43 Vol%, mean corpuscular hemoglobin 28 micromicrograms, mean corpuscular volume 85 cubic micra, mean corpuscular hemoglobin concentration 34%. Total leukocyte count 8,000/mm,<sup>3</sup> erythrocyte sedimentation rate 60, 79 and 84 mm/hr. with 68% segmented neutrophils, 1% neutrophilic bands, 1% eosinophils, 28% lymphocytes, 2% monocytes. The platelets were adequate on smear and the red cells normochromic normocytic. Total protein 7.1gm%, total bilirubin 0.5 mg%, serum glutamic oxaloacetic transaminase 20 units, lactic dehydrogenase 36 units (normal), alkaline phosphatase 35 units, calcium 4.7 meq/L., phosphorus 3.0 mg%, uric acid 3.2 and 3.9 mg%, blood urea nitrogen 19 and 26 mgs%, cholesterol 184 mg%, creatinine was 1.1 mg%, glucose 92mg%. A latex test for rheumatoid arthritis was negative. Agglutinins for salmonella, rickettsia, brucella and tularemia showed no titer. A latex test for antidesoxyribonucleic acid and three LE preps were negative. An electro-

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cardiogram was normal. A chest film was negative. A film of the lumbosacral region showed slight narrowing of the L-5, S-1 disc space. A cholecystogram was negative. An upper gastrointestinal series taken because of gaseous distention showed a small diverticulum of the duodenum. An intravenous pyelogram taken for investigation of the enlarged prostate showed a duplication of the right collecting system. Films of the ankle and knee joint showed soft tissue swelling. A diagnostic procedure was performed.

DR. GROSS: This 64-year old man entered with chief complaint of severe back pain. This had been preceded by pain which radiated down the left thigh and had been increased by coughing and sneezing. At this point, one certainly thinks about disc disease. This is because coughing and sneezing will increase the intradisc pressure and will cause more compression upon the nerve root and hence radiation of the pain in the sciatic distribution. The patient was admitted for his back pain but soon after developed pain in the ankle joint followed by pain in the knee joint. Now we begin to veer away from disc disease and must consider generalized joint diseases which involve not only the knee and ankle but the vertebral joints. The past history is not very helpful. The patient had had some back trouble before but was actively practicing dentistry which means that he could not have been very incapacitated. The fact that the younger brother was an orthopedic surgeon was probably just added to show that there must have been some tension in making the diagnosis.

On physical examination the patient's temperature was normal. Since some forms of arthritis may be infectious, we are interested to know what the patient's temperature was. The general physical examination showed that there was no marked systemic disease in the heart, lungs or abdomen. The neurologic examination was particularly important. The patient had good strength and did not show any weakness or absent or decreased reflexes as one might expect in disc disease.

At this point, I think that we should consider the diagnostic possibilities and see what tests we can order to prove or disprove these possibilities. Since several joints are involved, we must talk about generalized joint disease. Rheumatoid arthritis is a possibility. The patient is fairly old and a male — this is against the diagnosis because young females are more commonly affected with rheumatoid arthritis. Another pos-

sibility is gout. Degenerative and septic arthritis must also be considered. Tests that might help us in this differential include a blood count to see if there is an indication of septic arthritis. An erythrocyte sedimentation rate is particularly indicated. This test is commonly used by people practicing orthopedics or rheumatology since it gives one a good idea of the degree of inflammation in the joints.

\*DR. LOURENS WILLIKES: Do you think that the red cells in the urine are of any significance? Shouldn't also a synovial fluid analysis be done?

DR. GROSS: I think that red cells in the urine in any male are of significance. However, I cannot relate them to the rest of the findings in this case. I will get to synovial fluid analysis later. A uric acid should have been ordered. It was normal on two occasions. This makes gout unlikely. A latex fixation test for rheumatoid disease was ordered and was negative. We have no indication that the patient had any of these more common entities such as rheumatoid arthritis, gout, or septic arthritis as we have mentioned. Now we must consider some of the rarer entities. Joint disease can occur in hyperparathyroidism but a calcium, phosphorus, and alkaline phosphatase were unremarkable in this case. Tumor which can spread to the region of the joints could cause pain. One of the common tumors that could do this is carcinoma of the prostate and an acid phosphatase might have been helpful. The sedimentation rate was elevated on three occasions. Although the latex fixation test for rheumatoid arthritis was negative, we must still consider this possibility. L. E. prep and tests for antidesoxyribonucleic acid were done. There are tests for lupus erythematosus which can present with involvement of the joints.

†DR. SHANNON TURNEY: What is this test for now?

DR. BARLOW: In lupus erythematosus there are many autoantibodies; one of them is an antibody to the patient's own desoxyribonucleic acid. It is a non-specific test.

DR. TURNEY: Is this better than the L.E. prep?

DR. BARLOW: No, not necessarily. It may be positive when L.E. preps are negative. There is still another type of anti-DNA test and this is done with a fluorescent microscope. The test is more sensitive but less specific than an L.E. prep.

DR. GROSS: After considering all of these tests I think that the next thing to do is to look over

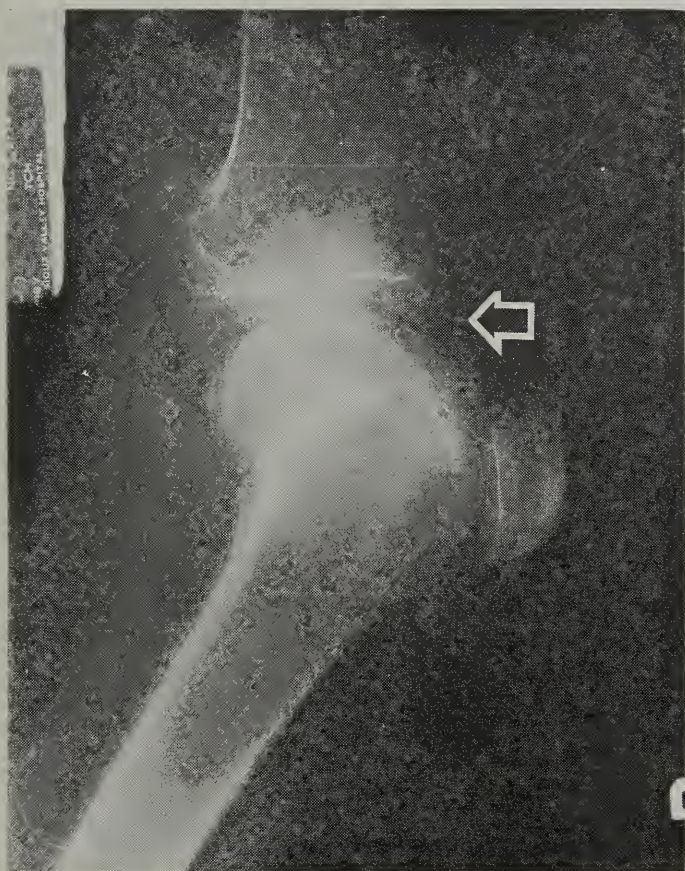
\* Intern, Sioux Valley Hospital.

† Surgeon, Sioux Valley Hospital.



the x-rays. The patient had multiple x-rays. An intravenous pyelogram, gastrointestinal x-rays and chest x-ray showed no specific abnormalities. I think that the main findings are in the x-rays of the joints. I have an advantage over the rest of you in that I have already looked at these x-rays. A significant finding in these x-rays of the knee is the calcification of the menisci. This is particularly prominent on the anterior view but is also seen on the lateral.

**Figure I.**



Arrow points to calcification of knee cartilage.

In the other involved joint, the ankle, there is calcification of the articular cartilage. When one sees this type of calcification it brings up the possibility of pseudogout. This was described by McCarty in 1962. He discovered this disease during a study analyzing the crystals in a series of gouty patients. He found that most of the crystals were urates and were negatively birefringent. But some of the crystals were oblong and weakly birefringent. The crystals remained after digestion with uricase which means that they were not uric acid crystals. The crystals in question were found to be calcium pyrophosphate crystals. McCarty took some of these crystals and injected them into his own knee and produced typical gout-like symptoms of acute arthritis. On aspirating his own knee he recovered these crystals. Basically McCarty

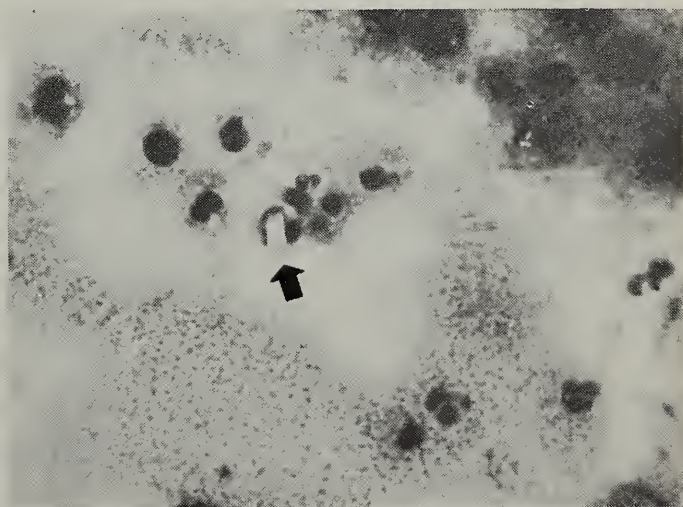
fulfilled Koch's postulates. If you remember from medical school, Koch's postulates are to clarify the etiology of a disease and are as follows: (1) You have to culture the organism from the affected part of the sick patient (I should mention that Koch's refer mainly to microbial disease). (2) You have to isolate and purify this organism through several different cultures. (3) If you reinject this organism back into the same patient or a different patient you have to produce the same disease as before. (4) You have to culture the same bacteria from the disease and reidentify it. Therefore, McCarty did the same thing with these crystals as Koch did with bacteria. McCarty proved that these crystals of pyrophosphate were the cause of this disease which he termed pseudogout.

Actually, the disease had been described before by a couple of Czechoslovakians, Ditnan and Sitaj, under the name of chondrocalcinosis articularis. They described 27 cases of this in a familial distribution in 1957.

The next step is to do a synovial fluid analysis from an aspiration of the joint and send it to the pathologist as Dr. Willikes stated. John, what did you find?

DR. BARLOW: The first photomicrograph shows the cells stained with Wright stain. You will note even at this power there are little clear spaces in these cells and under higher power these are oblong crystals. Several cells contain more than one. The next photomicrograph is taken under polarized light and shows the typical oblong intracellular crystal of calcium pyrophosphate. Therefore this patient did have the typical crystals of pseudogout.

**Figure II.**



Arrow points to the characteristic intracellular oblong calcium pyrophosphate crystal.

The other type of crystal that you can see in this sort of analysis is the typical needle shaped



crystal of gout which is quite different than this one. The crystal in gout is sodium monourate.

DR. GROSS: I think that we can go on to discuss a little bit some of the findings that one can use from synovial fluid analysis. This chart shows some of the tests that are used and divides diseases into categories.

It should be done under sterile conditions! Are there any questions?

\*DR. RICHARD SCHULTZ: Do you routinely use any anticoagulant in your fluids? I think a problem that we have in the laboratory, as you can see on your chart, is that you may have clots in the fluid and this will negate any mean-

**FIGURE III**  
**Differential Diagnosis**

	Color	Gross Appearance Clarity	Can print be read thru it?	Viscosity	Ropes Test (Mucin Clot Formation)	Average WBC	RBC	Urate Crystals	Cartilage Fibrils	Bacteria
Normal	Straw	Clear	Yes	High	Good	200 25% polys	0	0	0	0
Traumatic	Yellow to Bloody	Clear to Cloudy	No	Moderately High	Good	1,500±	Few to Grossly Bloody	0	+	0
Degenerative	Yellow to Straw	Clear	Yes	High	Good	700±	0	0	++	0
Gout	Yellow to Milky	Cloudy Turbid	No	Decreased	Poor	13,000±	0	+	0	0
Rheumatoid Arthritis	Yellow to Greenish	Cloudy	No	Low	Poor	15,000± 75% polys	Occasional	0	0	0
Septic	Grayish Creamy to Bloody	Cloudy	No	Low	Poor	25,000± 75% polys	Sometimes Grossly Bloody	0	0	+

Under gout, one should include pseudogout as it is only in the differentiation of the two types of crystals that one can make the distinction between gout and pseudogout. Most of these are fairly obvious when you think of them. In traumatic disease the fluid may be clear yellow; but, of course, it can be bloody. In degenerative joint disease, the synovial fluid is usually yellow. In gout or pseudogout there are more cells and the fluid becomes more turbid. In rheumatoid arthritis there are still more cells and the fluid becomes very turbid with perhaps a greenish tinge. In septic arthritis you may have anything from frank pus to gray to even bloody fluid. The mucin clot test is performed by putting a drop of the synovial fluid in acetic acid. In conditions where there is little inflammation and few cells, the mucin clot is good; but as we get up into the category where there are many cells and severe inflammation with severe disturbance of the synovium, the clot becomes poorer. The rest is self-explanatory.

I would like to say that when you aspirate a joint you cannot approach it as cavalierly as you would when you are sticking a needle into a vein. When you put a needle in a joint you have essentially done an open operation on that joint. Therefore, I think that synovial fluid should only be obtained after a surgical prep.

ingful cell count.

DR. GROSS: I think that one can use a very small bit of heparin for this purpose. I think that if you use oxalate or other anticoagulants you get other crystals in the fluid which can cause problems for the examiner.

Whenever I discuss a case, I go over some of my own cases. I have seen some calcification in joints on x-rays that I have noted. This x-ray shows a picture of a 48-year old lady who came in with pain and swelling after an injury. You will note the calcification of the cartilages as in our case today. I placed her on some butazolidin. I never heard from this patient again but looking through my records one day, I noticed this peculiar finding of calcification of the cartilages so I wrote her. She wrote back saying that she had not had any problem with her knee since but she got sicker than the devil on those pills that I had given her. (Laughter)

DR. BARLOW: I think that it should be pointed out that you can see calcium in the cartilages of patients but they may never develop the signs of acute arthritis.

DR. GROSS: Yes, that is correct. Actually, calcification in cartilage can come from several

\* Pathologist, Sioux Valley Hospital, Associate Professor of Pathology, School of Medicine, University of South Dakota.



conditions. In addition to pseudogout, calcium can be deposited in cartilages after severe trauma to the joints. The nutrition of the cartilage is altered by the trauma and calcium deposits. Calcium can also be deposited in the joints in cases where there is hypercalcemia like in hyperparathyroidism or hypervitaminosis-D. In ochronosis, an inborn error of metabolism in which homogentisic acid, which is a brown pigmented material, is deposited in the joints. The cartilage undergoes some degeneration and calcium may occur in the joint secondary to the degeneration. An unusual hereditary disorder called chondrocalcinosis universalis may cause calcification in joint cartilages.

An interesting point about pseudogout is that it behaves much the same way as gout does in that it can be relieved by colchicine or butazolidin.

DR. SHANNON TURNEY: Will indomethacin give good relief of this disease and how often do you see gout present with the usual podagra with involvement of the big toe as compared to other presentations?

DR. GROSS: Indomethacin will give good relief to pseudogout. I have seen about three cases of gout in the past years that presented with the typical complaints in the big toe. However, I have seen many more cases of gout with other joints involved. I think that this is because we are more aware of gout these days. I have had a number of patients with back pain with high uric acids. In fact, I had a patient the other day with a severe back pain and a history of passage of renal stones who had a uric acid of 14 mg/100 ml. His back pain cleared very quickly on colchicine. I think I have a number of patients with low back pain and high uric acid values who have benefited by allopurinol or benemid. Indomethacin is a drug that works well for any number of types of synovitis or arthritis.

\*DR. ROBERT GIEBINK: Do you think that this patient's back symptoms were due to the pseudogout and if so, how?

DR. GROSS: Well, it is interesting to postulate that his symptoms were related to the pseudogout. I would wonder when we do future operations if we should examine some of these discs for calcium pyrophosphate crystals. I also should point out that simple aspiration of these joints with removal of the crystals may be all that is needed for symptoms to abate.

DR. GIEBINK: How do you explain the high

sed rate. You usually don't see this in gout. DR. GROSS: Well, in any severe synovitis due to crystal deposition, I think that you can expect a high sed rate.

\*\*DR. S. S. KAHLER: I think that it should be pointed out that many patients who have pseudogout will have a high uric acid. In fact the incidence of high uric acids is higher in pseudogout than it is in the general population. These patients are probably treated as gout but really don't have urate disease. There is also an association of pseudogout with diabetes mellitus. DR. GROSS: Yes, in fact in some cases both calcium pyrophosphate and urate crystals can be seen in the same joint.

\*\*\*DR. PETERS: Does anybody know why the calcium deposits in these cartilages? DR. GROSS: No, not that I know of.

†DR. MARTIN CHIPMAN: You say that this is familial. Has the type of genetic transmission been defined?

DR. GROSS: No, the only paper that I have read on this simply pointed to an increased incidence in families involving both sexes.

DR. GIEBINK: Pseudogout occurs in both males and females, does it not?

DR. GROSS: Yes. DR. GIEBINK: Then this is different than gout in which the disease predominantly occurs in males?

DR. GROSS: Yes. DR. GIEBINK: How has this patient done? DR. BARLOW: To my knowledge this patient is now very well with no further symptoms.

**DR. H. P. GROSS DIAGNOSIS  
PSEUDOGOUT  
FINAL DIAGNOSIS  
PSEUDOGOUT**

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\*Orthopedic Surgeon, Sioux Valley Hospital.





### ALCOHOL DETECTION TESTS: A SOURCE OF ERROR

Only too often physicians find themselves enmeshed professionally in medical-legal situations involving the abuse of alcohol. The ramifications of this problem are time consuming and also have frustrating consequences if the circumstances require a court appearance. Acute embarrassment may result if the physician is unaware of possible errors in testing techniques for determination of alcohol.

A recent issue of *SCIENCE*\* contained an article relating to the determination of state of sobriety by analysis of expired gases which should be read by any physician who may become enmeshed in a situation wherein the determination of alcohol levels is a factor. The authors discuss a situation which can easily become a most debatable issue when defendant's attorneys and knowledgeable culprits become aware of the information documented. The authors stated as follows: "Transitory contact of ethanol with the mucous membranes of the mouth or nasal passages, or both, is sufficient to drastically alter measurements of concentrations of ethanol in so-called 'alveolar' gas for more than 20 minutes after such contact. Various concentrations of ethanol were taken into the mouth by human subjects and were expectorated. Readings of so-called 'blood alcohol' were then taken at short intervals by means of the 'Breathalyzer' and were continued up to 1 hour after exposure. These readings were compared with blood alcohol concentrations measured by quantitative chemical analysis of venous blood. When true concentrations of blood alcohol were at or close to zero (plus possible error of 0.0001 gram per 100 milliliters), readings of greater than 0.40 gram per 100 milliliters were obtained on the 'Breathalyzer'. Repeated mouth washing and gargling with water, changes in the nature of the solvent, and stomach loading each had only a slight effect in diminishing these errors."

In view of the fact that most mouth washes and breath sweeteners contain 6-70% alcohol (1. Astring-O-Sol-70%, 2. Cepacol-14%, 3. Char-Tex-6%, 4. Chloraseptic-0%, 5. Colgate 100-17%, 6. Isodine-35%, 7. Klenzo-25%, 8. Lavoris-5%, 9. Listerine-25%, 10. Mi 31-25%, 11. Micrin-20%, 12. Reef-18.5%, 13. Scope-18.5%, 14. Vademacum-34%), both the physician and the police will have to be very careful of the means employed for determination of actual blood alcohol levels in a suspect who may state, "I just gargled with ..... mouth wash," a preparation known to contain ethanol.

J. B. Gregg, M.D.

\* Spector, N. H., Alcohol Breath Tests: Gross Errors in Current Methods of Measuring Alveolar Gas Concentrations, *Science*, 172:57-59, Apr. 2, 1971.



*This is your*

# MEDICAL ASSOCIATION

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News Notes • Changes • Births • News

---

During the Brookings jog-a-thon held to raise money for emergency heart care equipment for the Brookings Hospital, **C. S. Roberts, M.D.** jogged 23 miles and earned \$82 for each mile.

\* \* \*

**T. H. Sattler, M.D.**, Yankton, has been appointed to the state commission on higher education facilities by Governor Richard Kneip.

\* \* \*

Guest speakers at the annual spring workshop of South Dakota hospital and nursing home volunteers held in Huron included **H. L. Saylor, M.D.**, chairman of the South Dakota Welfare Commission and **B. T. Lenz, M.D.**, South Dakota state chairman of the American Cancer Society.

\* \* \*

**R. E. Gunnarson, M.D.**, formerly of Rapid City, has opened an office in Sioux Falls. Dr. Gunnarson attended the University of South Dakota and graduated from the University of Wisconsin. He interned at Sioux Valley Hospital, attended the University of Minnesota and is a board certified otolaryngologist.

The American Board of Family Practice has notified **Roscoe Dean, M.D.**, Wessington Springs, and **John C. Rodine, M.D.**, Aberdeen, that they have successfully completed the requirements of that Board and are now Diplomates.

\* \* \*

**John Argabrite, M.D.**, Wattertown, was elected to the Board of Directors of the Society of Clinical Ecology at its sixth annual meeting held in San Francisco.

(Continued on Page 34)

YOUR  
CONTRIBUTION  
TO THE  
SOUTH DAKOTA  
MEDICAL SCHOOL  
ENDOWMENT  
FUND  
IS NEEDED

**E. T. Lietzke, M.D.**, Beresford, died at a Sioux Falls hospital following a lengthy illness. Dr. Lietzke was born in 1905 in Olivia, Minnesota, received his M.D. degree from the University of Minnesota and entered medical practice in Beresford in 1931 where he practiced until the time of his death. He served as district Councilor, past president of the Seventh District Medical Society, past chairman of the Council of the South Dakota State Medical Association, past president of the South Dakota Chapter American Academy of General Practice and recently received the South Dakota State Medical Association's Distinguished Service Award. He is survived by his widow; a son, Thomas, Minneapolis and three daughters, Mrs. Elizabeth Jones, Columbia, Tennessee; Mrs. Mary Flynn, Mankato, Minnesota and Katherine Lietzke, Minneapolis.



(Continued from Page 33)

Participants in a Symposium on Pediatric Endocrinology presented by the Department of Physiology and Pharmacology of the School of Medicine at the University of South Dakota included **W. F. Stanage, M.D.**, Yankton, and **E. H. Heinrichs, M.D.**, Watertown.

The Sisseton Clinic announced the association of **K. K. Verma, M.D.** in the practice of family medicine.

\* \* \*

The Canton-Inwood Hospital in connection with National Hospital Week honored **L. L. Parke, M.D.** at an open house for his 57 years of service to the community.

**Frieda J. Radusch, M.D.**, Rapid City, received Macalister College's Distinguished Citizen Alumni Citation at commencement ceremonies in St. Paul.

\* \* \*

**Jerry Walton, M.D.**, formerly of Martin, has joined Drs. Kittelson, Frost and Frieze in Sioux Falls for the practice of family medicine.

October 8 & 9, 1971 — Miami, Florida, Sheraton Four Ambassador Hotel. The Department of Otolaryngology, University of Miami School of Medicine will present a "Postgraduate Course in Otolaryngology for the Family Physician." AAFP credit - 9 hours.

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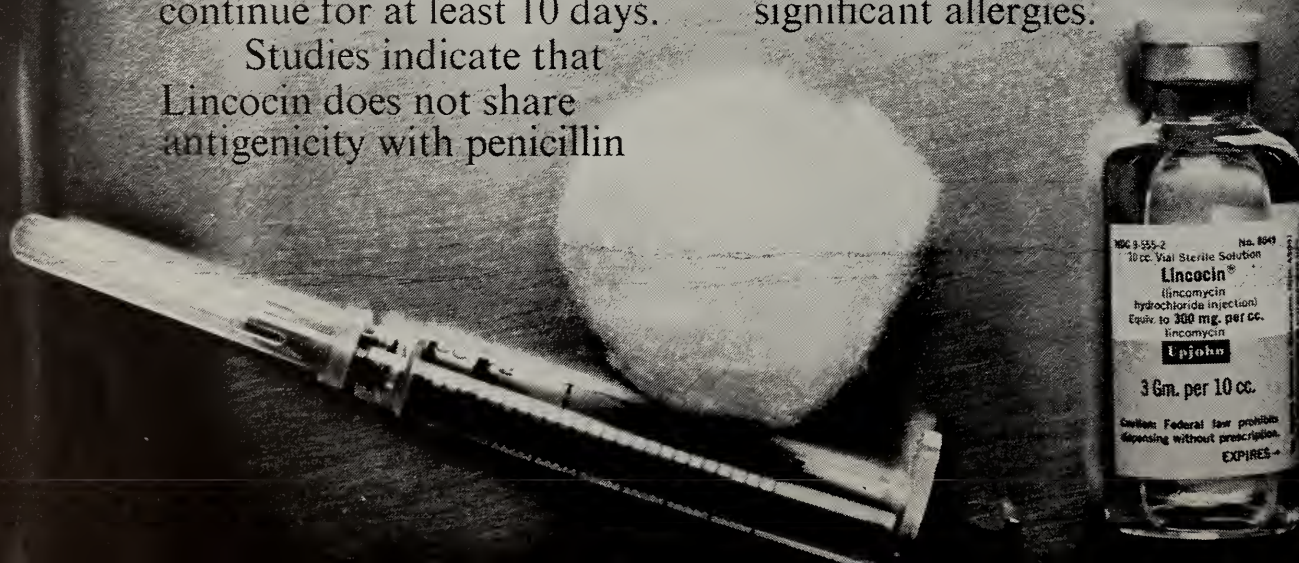


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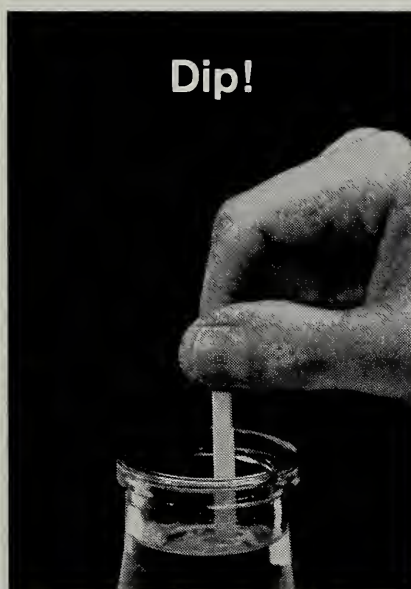
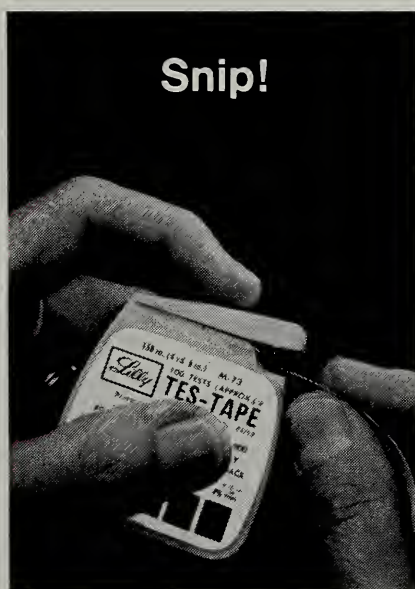
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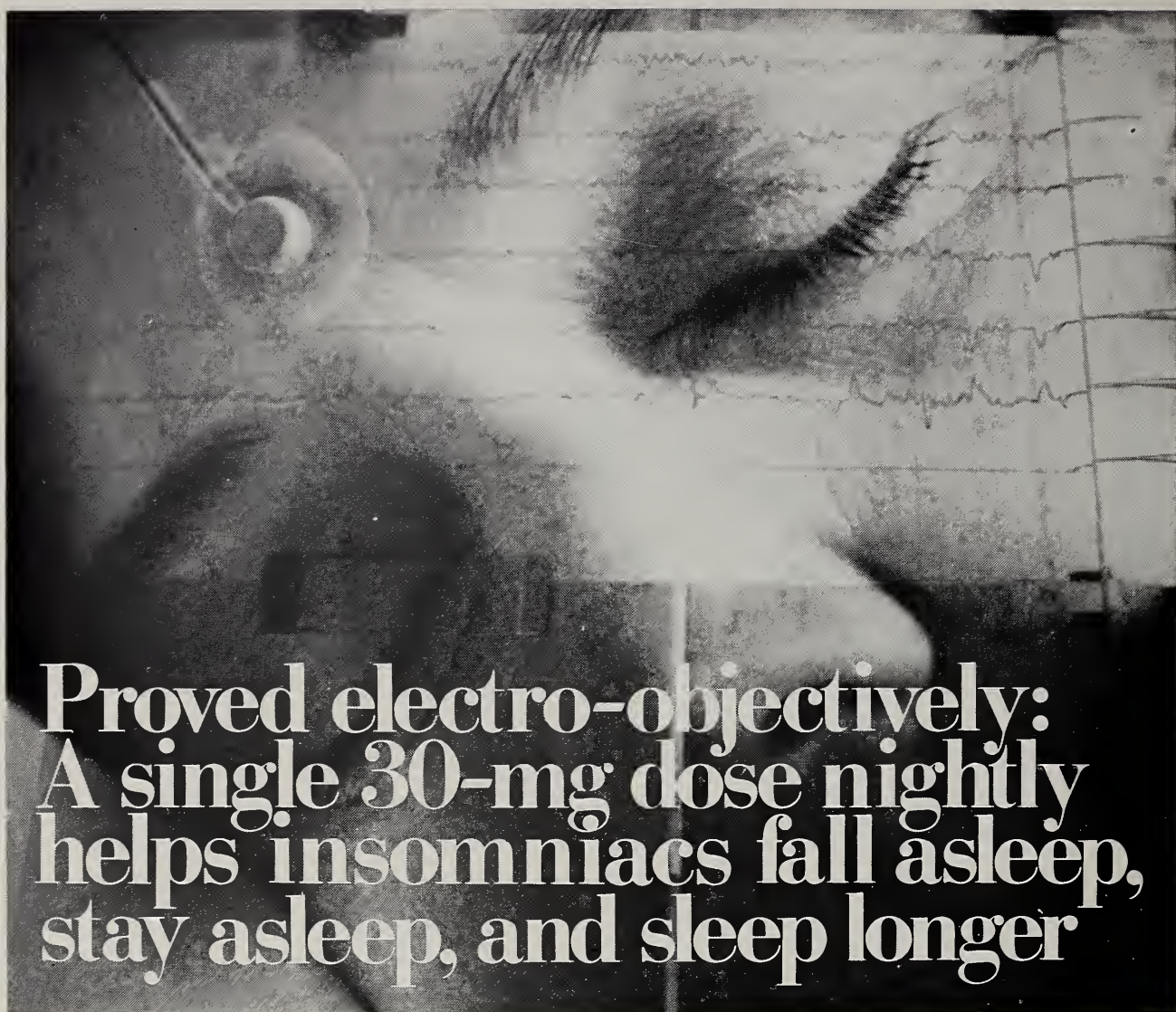


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Moreover, Dalmane 30 mg was found to be useful in all common types of insomnia in which it was studied. Of drugs studied in a sleep laboratory,<sup>1</sup> Dalmane 30 mg was the only one that consistently reduced sleep induction time and maintained sleep nightly for 14 consecutive nights of use.

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Fifty-three controlled studies using a paired-night, double-blind crossover design have evaluated Dalmane clinically. In the majority of these, Dalmane (flurazepam HCl) significantly reduced sleep induction time and increased sleep duration. Dalmane and a placebo were alternated on successive nights in 2010 insomniacs, 1706 of whom were studied for a single night-pair, and the remainder for as many as fifteen paired-nights. A patient preference for Dalmane was apparent in the paired-night studies.

Dalmane was also preferred to certain hypnotics in two separate preference studies. In each of two double-blind studies, Dalmane 30 mg retained effectiveness for the total period of seven consecutive treatment nights, according to subjective/objective evaluations.



In summary, Dalmane is useful in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening. It can be used effectively in patients with recurring insomnia or poor sleeping habits, and in acute or chronic medical situations requiring restful sleep.

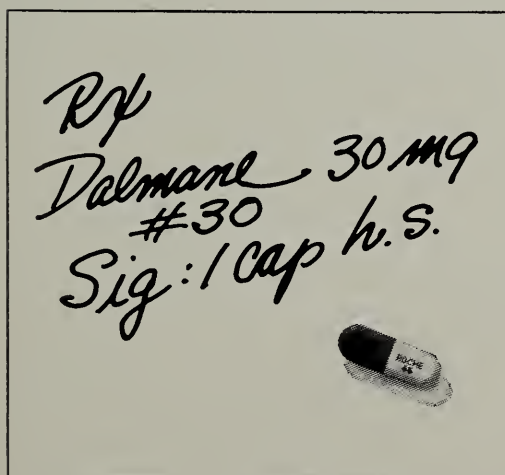
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In most instances in which adverse effects with Dalmane were reported, they were mild, infrequent and seldom required discontinuation of the drug. Dizziness, drowsiness, lightheadedness and the like were the side effects most frequently noted, particularly in elderly or debilitated patients.<sup>3</sup> Instances of hepatic dysfunction, paradoxical reactions (excitement) and hypotension are rare with Dalmane, and morning hang-over is relatively infrequent. In studies to date the effectiveness of Dalmane for recommended periods of use is maintained without need to increase dosage.

**References:** 1. Kales, A., et al.: "Effectiveness of Sleep Medications: All-Night EEG Studies of Hypnotic Drugs," in Proc. 7th Internat. Cong. Electroencephal. and Clin. Neurophysiol., San Diego, Calif., Sept. 13-19, 1969. 2. Kales, A., et al.: "Psychophysiological and Biochemical Changes Following Use and Withdrawal of Hypnotics," in Kales, A. (ed): *Sleep: Physiology and Pathology*, Phila., Lippincott, 1969, p. 331. 3. Data on file, Medical Department, Hoffmann-La Roche Inc.



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**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdose, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.



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## CONTENTS

Volume XXIV

August 1971

Number 8

Transactions of the South Dakota State Medical Association, Ninetieth Annual Session . . . . .	5
President's Page . . . . .	48
This Is Your Medical Association . . . . .	49
Roster . . . . .	50



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C. S. Roberts, M.D. (1974) Brookings  
K. A. Muckala, M.D. (1974) Vermillion  
S. M. Doubrava, M.D. (1974) Yankton  
E. J. Perry, M.D. (1974) Aberdeen  
E. A. Pasek, M.D. (1973) Sioux Falls  
C. R. Stoltz, M.D. (1973) Watertown  
Alfred Shousha, M.D. (1973) Britton  
R. R. Giebink, M.D. (1973) Sioux Falls  
B. T. Lenz, M.D. (1972) Huron  
James Shaeffer, M.D. (1972) Sioux Falls  
E. A. Rudolph, M.D. (1972) Aberdeen

### COMMISSION ON COMMUNICATIONS AND LIAISON

John F. Barlow, M.D., Chairman (1973) Sioux Falls  
H. J. Stensrud, M.D. (1974) Madison  
Mary Sanders, M.D. (1974) Aberdeen  
Loren Amundson, M.D. (1974) Sioux Falls  
W. O. Hanson, M.D. (1974) Huron  
R. E. Van Demark, M.D. (1973) Sioux Falls  
A. J. Tieszen, M.D. (1973) Pierre  
Eldon Bell, M.D. (1973) Webster  
R. G. Belatti, M.D. (1972) Madison  
D. L. Scheller, M.D. (1972) Arlington  
H. H. Theissen, M.D. (1972) Rapid City  
Romans Auskaps, M.D. (1972) Watertown



#### COMMISSION ON MEDICAL SERVICE

B. C. Gerber, M.D., Chairman (1973) Aberdeen  
R. F. Hubner, M.D. (1974) Yankton  
J. O. Mabey, M.D. (1974) Mitchell  
Dale Berkebile, M.D. (1974) Rapid City  
James A. Rud, M.D. (1974) Watertown  
M. G. Mutch, M.D. (1973) Sioux Falls  
W. B. Odland, M.D. (1973) Aberdeen  
G. E. Tracy, M.D. (1973) Watertown  
Warren Jones, M.D. (1972) Sioux Falls  
T. H. Sattler, M.D. (1972) Yankton  
George Wood, M.D. (1972) Rapid City  
Raymond Burnett, M.D. (1972) Rapid City

#### COMMISSION ON SCIENTIFIC MEDICINE

E. H. Heinrichs, M.D., Chairman (1972) Watertown  
E. A. Schabauer, M.D. (1974) Mitchell  
W. J. Kovarik, M.D. (1974) Rapid City  
R. R. Thornton, M.D. (1974) Yankton  
Theodore Angelos, M.D. (1974) Canton  
James C. Larson, M.D. (1973) Watertown  
H. Phil Gross, M.D. (1973) Sioux Falls  
C. C. Lardinois, M.D. (1973) Huron  
H. S. Shining, M.D. (1973) Rapid City  
N. B. Saoi, M.D. (1972) Yankton  
R. B. Leander, M.D. (1972) Sioux Falls  
R. J. Zakahi, M.D. (1972) Pierre

#### EXECUTIVE COMMITTEE

G. Robert Bartron, M.D., Chairman, Watertown  
W. R. Taylor, M.D., Aberdeen  
T. H. Sattler, M.D., Yankton  
A. P. Reding, M.D., Marion  
J. T. Elston, M.D., Rapid City  
Fred Leigh, M.D., Huron

#### GRIEVANCE COMMITTEE

James P. Steele, M.D., Chairman (1972) Yankton  
J. J. Stransky, M.D. (1973) Watertown  
J. T. Elston, M.D. (1974) Rapid City  
R. H. Quinn, M.D. (1975) Sioux Falls  
J. A. Muggly, M.D. (1976) Madison

#### UTILIZATION AND INSURANCE REVIEW COMMITTEE

C. B. McVay, M.D., Chairman, Yankton  
Harvard Lewis, M.D., Mitchell  
Roscoe E. Dean, M.D., Wessington Springs  
E. S. Palmerton, M.D., Rapid City  
H. Russell Brown, M.D., Watertown  
W. O. Rossing, M.D., Sioux Falls

#### REPORT OF THE BUDGET AND AUDIT COMMITTEE

The Committee met at the Howard Johnson Motor Lodge, Rapid City, on May 21, at 9:00 a.m. Present were Drs. Reding, Begley and Shaeffer.

The CPA Audit was reviewed by the Committee. Mr. Erickson explained several items in the audit which was prepared by Broeker Hendrickson & Company. A discussion was held on advertising income for the **South Dakota Journal of Medicine**. A review of expenses for the fiscal year of 1970-71 was held. Dr. Reding moved that the audit be approved by the committee. The motion was seconded by Dr. Shaeffer and carried. The meeting adjourned at 10:15 a.m.

#### FIRST COUNCIL MEETING

Rapid City, South Dakota  
Thursday, May 20, 1971

The meeting was called to order by Harvard Lewis, M.D., Chairman of the Council. Those present for roll call were Doctors J. A. Muggly, G. Robert Bartron, W. R. Taylor, A. P. Reding, R. H. Quinn, J. J. Stransky, H. R. Lewis, J. T. Elston, David Seaman, G. E. Tracy, Bruce Lushbough, C. L. Swanson, Fred Leigh, Duane Reaney, E. T. Ruud, M. R. Cosand, J. E. Ryan, Eldon Bell, J. B. Gregg and student representative, Todd Biegler, and AMA field representative, Bob Warnick.

Dr. Elston moved that the reading of the minutes of the last meeting be dispensed with inasmuch as they have been published. The motion was seconded by Dr. Tracy and carried.

Dr. Gregg reported on the activities of the Com-

mission on Legislation and Governmental Relations regarding the podiatry law. The recommendation of the Commission to the Council was that the podiatry law which was introduced last year be considered favorably by the Council. The Commission also recommended to the Council that the law admitting podiatrists under Blue Shield should not be considered favorably by the Council. Dr. Bartron moved that the State Association not approve the proposed amended podiatry legislation and that podiatrists not be included under Blue Shield. The motion was seconded by Dr. Cosand and carried.

There were no reports from the Commissions on Internal Affairs, Scientific Medicine, Medical Service, or Communications and Liaison.

Mr. Erickson reported that the executive office is investigating the possibility of establishing a Relative Value unit for medical-legal testimony.

Mr. Erickson reported on the afternoon open forum on medical foundations. Dr. Muggly moved that the new president of the State Association appoint an ad hoc committee to investigate the feasibility of establishing a foundation for the state of South Dakota and that this committee should make a preliminary report at the fall Council meeting. The motion was seconded by Dr. Tracy and carried.

Mr. Erickson reported on the progress of the transfer of records for the Title 19 program from Blue Shield to the Welfare Department. Dr. Quinn moved that the executive office request again from the Welfare Commission the information which had been requested at the April Council meeting concerning the Title 19 program: That is a letter from the Denver office stating that the doctors' offer to provide free medical services to Welfare recipients until the Welfare Department received funds was rejected, and that the Denver office stated that it was not necessary to have a majority of the providers sign contracts in order to have a program. Dr. Bartron moved that the Association, through the Liaison

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Committee with the Welfare Commission, obtain for the Council's benefit the cost of processing for Title 19 claims during the time of take over and for 12 months and report back to the Council. The motion was seconded by Dr. Bell and carried.

Mr. Erickson reported on the Tax Information Program and the donations received to date. Dr. Bartron moved that the Council reaffirm its previous action and authorize the officers to sign a commitment to underwrite this program for \$10,000. The motion was seconded by Dr. Tracy and carried.

Dr. Ruud reported on the committee's study concerning the ethical situation of a South Dakota physician. The committee recommended to the Council that no action be taken at this time. Dr. Lushbough moved that the Council accept the committee's report. The motion was seconded by Dr. Reaney and carried.

Mr. Erickson reviewed the resolution on Mediredit for the Council's information.

#### RESOLUTION CONCERNING MEDICREDIT MAY 1971

RESOLVED, that the South Dakota State Medical Association endorse the American Medical Association's Mediredit proposal for financing of health care services, and that this endorsement be forwarded to the Senators and Representatives of our state.

Dr. Elston moved that the Council adopt this resolution and that the resolution be submitted to the House of Delegates for their approval. The motion was seconded by Dr. Stransky and carried.

The Council reviewed a letter from the Republican Central Committee concerning tax reform. Dr. Ruud moved that the Council ask the Republican Committee to withhold action on tax reform until the results of the Tax Information Program are finalized. The motion was seconded by Dr. Swanson and carried.

The Council considered the resolution from the Interagency Council on Smoking and Health concerning smoking advertisements in the South Dakota Journal of Medicine.

#### RESOLUTION ON SMOKING ADVERTISEMENTS IN SOUTH DAKOTA JOURNAL OF MEDICINE

WHEREAS, the South Dakota Inter-Agency Council on Smoking and Health, comprised of leaders in the following health fields: American Cancer Society, South Dakota Division, Inc., South Dakota T.B. and Respiratory Disease Association, South Dakota Heart Association, South Dakota School Health Services, State Department of Public Instruction, State Department of Health, South Dakota Association for Health, Physical Education and Recreation, South Dakota Medical Association, and South Dakota Congress of Parents and Teachers, wish to take this means of informing the SOUTH DAKOTA JOURNAL OF MEDICINE they consider cigarette advertising which has appeared in the February 1971 and March 1971 issues of SOUTH DAKOTA JOURNAL OF MEDICINE, to be most inappropriate.

WHEREAS, a recent survey of hospitals in South Dakota shows the withdrawal of cigarette vending machines from their premises and,

WHEREAS, over 100,000 doctors have quit smoking because of the proven health hazards of cigarette smoking,

HEREBY BE IT RESOLVED, We, as members of the South Dakota Inter-Agency Council on Smoking and Health, do request the SOUTH DAKOTA JOURNAL OF MEDICINE give serious consideration to cease publishing cigarette promotional materials in future publications.

Signed this 1st day of April, 1971  
Mrs. Pat Van Bockern, Vice President  
and Acting President,  
South Dakota Inter-Agency Council  
on Smoking and Health

Dr. Leigh moved that the Council direct the South

Dakota Journal of Medicine to discontinue smoking advertisements. The motion was seconded by Dr. Cosand and carried.

The Council considered a letter from Dr. Quinn resigning as a member of the Medical School Admissions Committee. Dr. Ruud moved that the Council accept Dr. Quinn's resignation with regret. The motion was seconded by Dr. Leigh and carried. Dr. Leigh moved that recommendations from the Council for a member to serve on the Admissions Committee be tabled until the Sunday Council meeting. The motion was seconded by Dr. Swanson and carried.

The Council considered the Watertown District's recommendation that Dr. E. G. Huppler be elected to honorary life membership in the State Association. Dr. Cosand moved that E. G. Huppler, M.D. be elected to honorary life membership in the Association. The motion was seconded by Dr. Leigh and carried.

The names of G. E. Tracy, M.D., E. H. Heinrichs, M.D., and H. Werthmann, M.D. were submitted for possible appointments to federal advisory positions. Dr. Leigh moved that the Association submit the names of G. E. Tracy, M.D., E. H. Heinrichs, M.D. and H. Werthmann, M.D. to the American Medical Association for possible appointment to federal advisory positions. The motion was seconded by Dr. Cosand and carried.

Mr. Robert Warnick, AMA field representative, discussed the possibility of holding a leadership conference in South Dakota, which would include the Council, the SoDaPAC Board and the AMPAC Board of Directors. Dr. Cosand moved that the Association hold a leadership conference in conjunction with the fall Council meeting. The motion was seconded by Dr. Tracy and carried.

Dr. Swanson moved that the meeting be adjourned. The motion was seconded by Dr. Taylor and carried.

#### SECOND COUNCIL MEETING

Sunday, May 23, 1971  
Rapid City, South Dakota

The meeting was called to order by Harvard Lewis, M.D., Chairman of the Council. Those present for roll call included Doctors G. R. Bartron, W. R. Taylor, A. P. Reding, R. H. Quinn, J. J. Stransky, H. R. Lewis, J. T. Elston, J. A. Muggly, David Seaman, G. E. Tracy, Bruce Lushbough, C. L. Swanson, Fred Leigh, Duane Reaney, E. T. Ruud, M. R. Cosand, J. E. Ryan, Eldon Bell, and student representative, Todd Biegler, and Robert Warnick, AMA field representative.

Dr. Cosand moved to dispense with the reading of the minutes of the previous meeting inasmuch as they will be published. The motion was seconded by Dr. Swanson and carried.

The committee which was appointed at the April 1971 Council meeting to study the ethical conduct of a South Dakota physician requested that the Council empower them again to talk with this physician. Dr. Muggly moved that this committee be empowered to speak to the South Dakota physician again concerning his ethical conduct. The motion was seconded by Dr. Swanson and carried.

The Council considered making recommendations to the Admissions Committee for a physician member to replace Dr. Quinn who has resigned. Dr. Cosand moved that the Executive Committee make a recommendation to the Dean of the Medical School regarding a physician member of the Admissions Committee. The motion was seconded by Dr. Elston and carried. The executive office was directed to carry an item in the Grab Bag soliciting physicians who might be interested in serving on the Admissions Committee.

Nominations were then in order for Chairman of the Council. Dr. Elston moved that a unanimous ballot be cast for Fred Leigh, M.D. as Chairman of the Council. The motion was seconded by Dr. Taylor and carried.

Mr. Erickson briefly reviewed the annual meeting and some of the problems which had arisen.

Todd Biegler, student representative, thanked the officers and councilors for the opportunity to serve



on the Council, and urged the Council to continue to include student representation on the Council and on Commissions.

Dr. Muggly suggested that the Council urge individuals who submit resolutions to the House of Delegates to attend the reference committee meeting which considers that resolution for reasons of explaining and clarifying the resolution.

The fall Council meeting was set for Saturday, September 11, and the leadership conference will be held Friday evening, September 10.

Dr. Tracy moved that the meeting be adjourned. The motion was seconded by Dr. Ryan and carried.

#### FIRST HOUSE OF DELEGATES MEETING

Friday, May 21, 1971

Rapid City, South Dakota

The meeting was called to order by John T. Elston, M.D., Speaker of the House. Those present for roll call included Doctors Muggly, Bartron, Taylor, Redding, Elston, Quinn, Seaman, Stransky, Tracy, Lushbough, Swanson, Leigh, Lewis, Ruud, Cosand, Ryan, Bell, Bunker, Steele, Auskaps, Rud, Scheller, Klar, Sundet, Bell, Hofer, Gere, Leander, Shaeffer, Begley, Daw, McDonald, Lang, Ortmeier, Knabe, Foley, Lyso, Golliher, Barrett, Haugan, Vogelgesang, and student representatives, Todd Biegler, David Nordin, and John Mast.

Dr. Bartron moved to dispense with the reading of the minutes of the last meeting inasmuch as they have been published. The motion was seconded by Dr. Gere and carried.

Dr. Muggly, as president of the South Dakota State Medical Association, appointed the following physicians to the Nominating Committee: David Seaman, M.D.; James Rud, M.D.; Werner Klar, M.D.; N. J. Sundet, M.D.; Fred Leigh, M.D.; J. O. Mabee, M.D.; P. K. Aspaas, M.D.; R. J. Foley, M.D.; A. J. Barrett,

M.D.; M. R. Cosand, M.D., Chairman; James C. Ryan, M.D., and L. C. Vogelgesang, M.D.

Dr. Elston read the appointments to the Reference Committees as follows:

#### Reference Committee on Credentials

E. F. Daw, M.D., Chairman

W. Kovarik, M.D.

M. Lyso, M.D.

#### Reference Committee on Reports of Officers and Councilors

C. L. Swanson, M.D., Chairman

Thomas Bunker, M.D.

H. O. Haugan, M.D.

#### Reference Committee on Resolutions and Memorials

J. H. Shaeffer, M.D., Chairman

R. G. Gere, M.D.

#### Reference Committee on Reports of the Commissions on Communications and Liaison and Medical Service

G. E. Tracy, M.D., Chairman

Donald Scheller, M.D.

Warren Golliher, M.D.

#### Reference Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, and Legislation and Governmental Relations

Romans Auskaps, M.D., Chairman

E. T. Ruud, M.D.

B. J. Begley, M.D.

#### Reference Committee on Reports of Special Committees and Miscellaneous Business

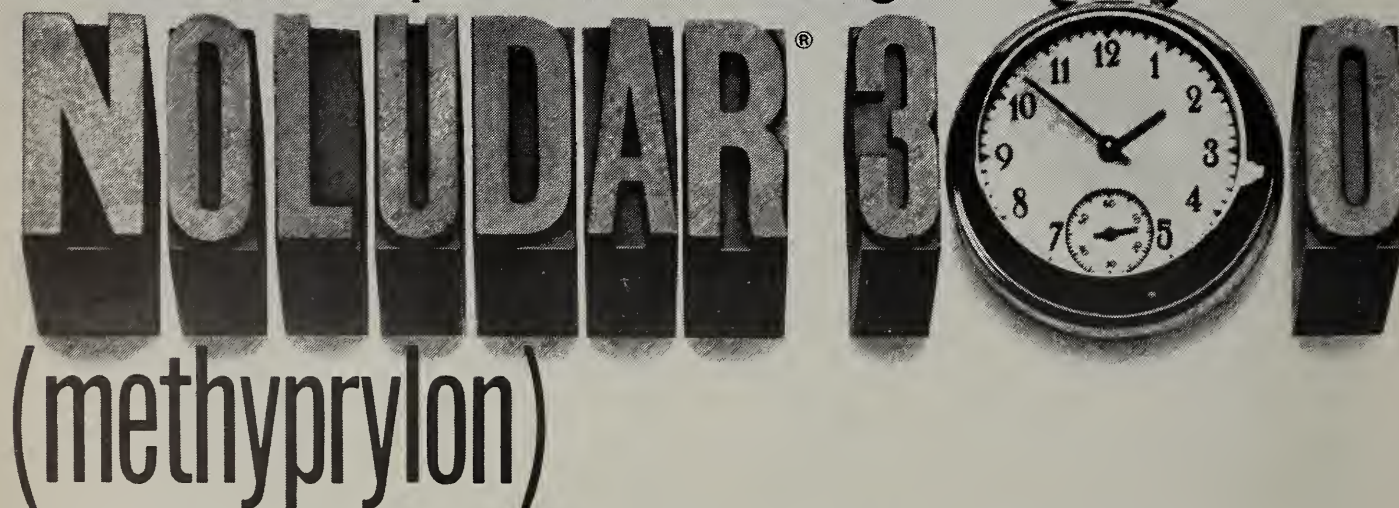
Bruce Lushbough, M.D., Chairman

Granville Steele, M.D.

G. Robert Bell, M.D.

Dr. Scheller moved that the reports of the officers, councilors and commissions as contained in the Handbook be referred to the appropriate committee

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**Physical and Psychological Dependence:** Physical and psychological dependence rarely reported. If withdrawal symptoms do occur they may resemble those associated with

withdrawal of barbiturates and should be treated in the same fashion. Use caution in administering to individuals known to be addiction-prone or those whose history suggests they may increase the dosage on their own initiative. Repeat prescriptions should be under adequate medical supervision.

**Usage in Pregnancy:** Weigh potential benefits in pregnancy, during lactation, or in women of childbearing age against possible hazards to mother and child.

**PRECAUTIONS:** If sleeplessness is pain-related, an analgesic should also be prescribed. Perform periodic blood counts if used repeatedly or over prolonged periods. Total daily intake should not exceed 400 mg, as greater amounts do not significantly in-

crease hypnotic benefits.

**ADVERSE REACTIONS:** At recommended dosages, there have been rare occurrences of morning drowsiness, dizziness, mild to moderate gastric upset (including diarrhea, esophagitis, nausea and vomiting), headache, paradoxical excitation and skin rash. There have been a very few isolated reports of neutropenia and thrombocytopenia; however, the evidence does not establish that these reactions are related to the drug.

Each capsule contains 300 mg of methypylon.



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for action. The motion was seconded by Dr. Steele and carried.

The chair asked for the introduction of resolutions from the floor. Dr. Gollhofer submitted a resolution from the Ninth District concerning the combining of the schools of nursing, and pharmacy and the school of medicine into an expanded school of health sciences. Dr. Muggly submitted a resolution from the Council concerning Mediredit.

Dr. Elston referred Resolution #1 to the Reference Committee on Reports of the Commissions on Medical Service, Communications and Liaison.

#### RESOLUTION #1

TO: House of Delegates  
South Dakota State Medical Association  
FROM: Commission on Communications and Liaison  
SUBJECT: Osteopathic Membership in SDSMA  
Amendments to By-Laws

of  
South Dakota State Medical Association  
Article III  
Membership

#### Section 1. Requirements

This Association shall consist of (a) active members, (b) life members, and (c) associate members, all of whom shall be doctors of medicine licensed in the State of South Dakota or permitted to practice herein under the provisions of the Medical Practice Act. In addition to the foregoing, osteopathic affiliate memberships shall be granted to osteopathic physicians licensed to practice in the State of South Dakota, subject to the restrictions mentioned elsewhere in this article.

(Explanation: The first sentence remains as originally set forth in the By-Laws, the second sentence has been added.)

#### Section 11. Categories

d. Osteopathic affiliate members of this Association are all osteopathic physicians lawfully registered in the State of South Dakota, of good moral character and professional standing who do not support or practice or claim to practice any exclusive system of healing. They need not be members of a component medical society, and if they do become such members, they may not serve as delegates of such a society to the annual meeting, but they will pay the full dues of the Association. They shall not have a vote, nor will their membership be counted in apportionment of delegates from any component society. They may serve on committees and commissions of the Association and may vote as such members of such committees and commissions only.

(Explanation: This is a new sub-section intended to allow affiliate membership by osteopathic physicians. They are not entitled to a vote in any Association business, other than as members of committees and commissions of the Association.)

#### Article VII Officers

#### Section 1. Definition and Terms

b. Eligibility — To be eligible for election or appointment as an officer of this Association, except that of Executive Secretary, a member must possess the qualifications required by the By-laws under Article III, Section 2 a; or b.

October 8 & 9, 1971  
Miami, Florida

#### Sheraton Four Ambassador Hotel

The Department of Otolaryngology, University of Miami School of Medicine, will present a "Postgraduate Course in Otolaryngology for the Family Physician." AAFP credit — 9 hours.

Course Director — F. W. Pullen, II, M.D.  
Neuro-Otologic Laboratory  
School of Medicine  
P.O. Box 875, Biscayne Annex  
Miami, Florida 33152

(Explanation: This sub-section has been changed by changing the next to the last word in the section from "and" to "or". As formerly constituted, a literal reading of the sub-section requires that an officer must not only be an active member, but a life member as well, of the Association.)

(Amended and adopted — Refer to 2nd House of Delegates meeting)

Resolution #2 was referred to the Reference Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, Legislation and Governmental Relations.

#### RESOLUTION #2

TO: House of Delegates  
South Dakota State Medical Association  
FROM: Second District Medical Society  
SUBJECT: Abortion Legislation Guidelines

WHEREAS, There are changes to be expected in the South Dakota statutes concerning abortion, and WHEREAS, The present statutes do not appear to fulfill the needs of present society, and WHEREAS, the South Dakota State Medical Association has expressed its desire not to sponsor its own legislation, and

WHEREAS, Said Association does have a vital interest in the legal regulation of abortion, and

WHEREAS, The members of the Second Medical District have expressed grave concern over certain developments,

THEREFORE, BE IT RESOLVED, that the Watertown District Medical Society transmit the concern of its members to the House of Delegates of the SDSMA, and

BE IT FURTHER RESOLVED, to ask the House of Delegates of the South Dakota State Medical Association to resist any legislation on abortion which does not contain at least the following provisions:

a) that no physician or other professional personnel shall be compelled to perform any act which violates his good medical judgment, nor shall any physician, hospital or hospital personnel be

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required to perform any act in violation of personally held moral principles.

b) a residence requirement longer than the pregnancy, excepting those patients from bordering states who regularly receive medical care in South Dakota.

c) no "abortion on demand" clause.

d) the permission of the husband in case of a married woman.

(Rejected—Refer to 2nd House of Delegates meeting)

Resolution #3 was referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business.

#### RESOLUTION #3

TO: House of Delegates  
South Dakota State Medical Association

FROM: Seventh District Medical Society

SUBJECT: Physician Licensure Laws

WHEREAS, The Medical School training of physicians in the United States today is comparable from one part of the country to another, and there is rapid dissemination of knowledge, promoting uniformity of available information, and

WHEREAS, The medical licensing laws of South Dakota and, for the most part, the entire United States were for the most part written for and applicable to a different era and are now in many respects archaic, and

WHEREAS, The licensing laws in existence today are keeping physicians who are badly needed in this state from coming here to practice,

NOW THEREFORE BE IT AFFIRMED BY THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION, that there is an urgent need for the modernization of the licensing laws for the practice of medicine both in South Dakota and the United States, and

BE IT DIRECTED, that this matter be studied as soon as possible, carefully, both with regard to South Dakota State and other state laws of the United States, by the appropriate Commission of the SDSMA with the directive that a report, **with recommendations**, be made to the Council of the SDSMA as soon as possible for implementation, and a report be made to the House of Delegates of the SDSMA at its next annual meeting.

(Adopted—Refer to 2nd House of Delegates meeting)

Resolution #4 was referred to the Reference Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, Legislation and Governmental Relations.

#### RESOLUTION #4

TO: House of Delegates  
South Dakota State Medical Association

FROM: Seventh District Medical Society

SUBJECT: Fireworks Legislation

BE IT RESOLVED, that the House of Delegates of the SDSMA reaffirm the position of the Association in regard to legislation to outlaw fireworks in this state, other than displays put on by properly trained and licensed personnel, and further to direct the SDSMA to sponsor such legislation at the next legislative session.

(Tabled—refer to 2nd House of Delegates meeting)

Resolution #5 was referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business.

#### RESOLUTION #5

TO: House of Delegates  
South Dakota State Medical Association

FROM: Seventh District Medical Society

SUBJECT: District Election of Councilors

BE IT RESOLVED, that the Bylaws of the SDSMA be changed to allow each district of the Association to nominate and elect its Councilor.

(Rejected—refer to 2nd House of Delegates meeting)

Resolution #6 was referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business.

#### RESOLUTION #6

TO: House of Delegates  
South Dakota State Medical Association

FROM: Seventh District Medical Society

SUBJECT: Formation of Sports Council

WHEREAS, It is recognized that many injuries occur to high school athletes during their participation in practice or competitive events, and

WHEREAS, Some of these injuries are of such a nature or extent to cause permanent bodily damage if further participation is permitted,

THEREFORE, BE IT RESOLVED, that the SDSMA sponsor the formation of a Sports Council composed of medical and allied professional men to meet with the SDHSAA Board for the purpose of setting up regulations governing the participation of injured athletes in further practice or competitive events.

BE IT FURTHER RESOLVED, that these regulations include this provision that wherever and whenever possible, an M.D. be in attendance at all competitive athletic events, and that he be the final judge as to the extent of all incurred injuries, and the athlete's capacity for further competition.

(Adopted as amended — Refer to 2nd House of Delegates meeting)

Resolution #7, submitted by the Ninth District from the floor, was referred to the Reference Committee on Reports of Commissions on Scientific Medicine, Internal Affairs, Legislation and Governmental Relations.

#### RESOLUTION #7

Resolution of the 9th District  
Medical Society to the House of  
Delegates, SDSMA, 11 May, 1971

WHEREAS, the President of the University of South Dakota has announced that he will appoint a Vice President in Charge of Health Affairs, and;  
WHEREAS, professional training in the Health fields incorporates study of basic sciences which are similar and;

WHEREAS, duplication of such courses is expensive and probably wasteful, especially in an already strained education system, and;

WHEREAS, major changes are taking place in such health science educational system, and;

WHEREAS, these changes will require early involvement of all medical and paramedical trainees in teaching hospital programs as well as in classrooms and laboratories,

THEREFORE BE IT RESOLVED, that the South Dakota State Medical Association formally petition the Board of Regents to combine the schools of Nursing and Pharmacy and the School of Medicine into an expanded School of Health Sciences.

(Rejected—refer to 2nd House of Delegates meeting)

Resolution #8, submitted by the Council from the floor, was referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business.

#### RESOLUTION #8

RESOLVED, that the South Dakota State Medical Association endorse the American Medical Association's Mediredit proposal for financing of health care services, and that this endorsement be forwarded to the Senators and Representatives of our State.

(Adopted—refer to 2nd House of Delegates meeting)

Mr. Erickson introduced Mr. Warren May, attorney for the Association, and Mr. Robert Warnick, AMA field representative.

Dr. Steele moved to adjourn the meeting. The motion was seconded by Dr. Auskaps and carried.

#### SECOND MEETING OF THE HOUSE OF DELEGATES

Sunday, May 23, 1971

Rapid City, South Dakota

The meeting was called to order by J. T. Elston, M.D., Speaker of the House.

Present for roll call were Doctors Muggly, Bartron, Taylor, Reding, Elston, Quinn, Stransky, Seaman, Tracy, Lushbough, Swanson, Leigh, Lewis, Reaney, Ruud, Cosand, Ryan, Bell, Bunker, Steele, Auskaps, Rud, Scheller, Klar, Sundet, Bell, Hofer, Mabee,

(Continued on Page 12)



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## **We Need Your Continued Support — and Contributions**

Board of Directors  
South Dakota Medical School  
Endowment Association  
711 N. Lake Ave.  
Sioux Falls, South Dakota



(Continued from Page 10)

Gere, Leander, Shaeffer, Begley, Daw, McDonald, Ortmeier, Aspaas, Knabe, Foley, Honke, Gollither, Haugan, Marousek, Vogelgesang, and student representatives, Todd Biegler, David Nordin, and John Mast.

Dr. Elston announced that Dr. G. E. Tracy had been appointed official parliamentarian for the House session.

Dr. Scheller moved to dispense with the reading of the minutes of the First House of Delegates meeting. The motion was seconded by Dr. Leander and carried.

The report of the Nominating Committee was read by Dr. M. R. Cosand.

#### **THE REPORT OF THE NOMINATING COMMITTEE**

The Nominating Committee met at 2:30 p.m. in the Roosevelt Room, Howard Johnson Motel, Rapid City, South Dakota.

Twelve members of the committee were present for discussion of items referred to the committee.

The committee considered the nominations for councilors from districts 1, 2, 4 and 8. The following nominees are presented to the House of Delegates for consideration:

District #1	David Seaman, M.D.
District #2	G. E. Tracy, M.D.
District #4	C. L. Swanson, M.D.
District #8	Duane Reaney, M.D.

The committee nominates the following for officers of the Association:

President, G. Robert Bartron, M.D.  
President Elect, W. R. Taylor, M.D.

A tie vote was recorded for the position of vice president, and therefore the committee submits both names:

T. H. Sattler, M.D., Yankton  
Gerald Tracy, M.D., Watertown

Nomination for Speaker of the House was John Elston, M.D.

Sites for future annual meetings were discussed. The committee proposes the following:

1972 — Huron  
1973 — Pierre  
1974 — Mitchell

Respectfully submitted,  
M. R. Cosand, M.D., Chairman

Dr. Lushbough moved that a unanimous ballot be cast for the Councilors nominated. The motion was seconded by Dr. Klar and carried.

Dr. Swanson moved that a unanimous ballot be cast for G. Robert Bartron, M.D. as president. The motion was seconded by Dr. Hofer and carried.

Dr. Ortmeier moved that a unanimous ballot be cast for Dr. W. R. Taylor as president-elect. The motion was seconded by Dr. Reding and carried.

A written ballot was cast for vice president of the Association, and T. H. Sattler, M.D. was declared vice president.

Dr. Knabe moved that a unanimous ballot be cast for J. T. Elston, M.D. as Speaker of the House of Delegates. The motion was seconded by Dr. Steele and carried.

Dr. Leander moved that the proposed sites for the future annual meetings be accepted. The motion was seconded by Dr. Rud and carried.

Dr. Daw read the report of the Reference Committee on Credentials.

#### **REPORT OF THE REFERENCE COMMITTEE ON CREDENTIALS**

The credentials of the Delegates to the South Dakota State Medical Association were checked and the following delegates, alternates, officers and councilors were present:

J. A. Muggly, M.D.; G. Robert Bartron, M.D.; W. R. Taylor, M.D.; A. P. Reding, M.D.; J. T. Elston, M.D.; Robert Quinn, M.D.; John J. Stransky, M.D.; David Seaman, M.D.; G. E. Tracy, M.D.; Bruce Lushbough, M.D.; C. L. Swanson, M.D.; Fred Leigh, M.D.; Harvard Lewis, M.D.; E. T. Ruud, M.D.; M. R. Cosand, M.D.; James Ryan, M.D.; Eldon Bell, M.D.; Thomas Bunker, M.D.; Granville Steele, M.D.; R. Auskaps,

M.D.; James Rud, M.D.; Donald Scheller, M.D.; Werner Klar, M.D.; N. J. Sundet, M.D.; G. Robert Bell, M.D.; E. J. Hofer, M.D.; J. O. Mabee, M.D.; R. Gere, M.D.; R. B. Leander, M.D.; J. H. Shaeffer, M.D.; B. J. Begley, M.D.; Edward F. Daw, M.D.; Durward M. Lang, M.D.; D. G. Ortmeier, M.D.; P. K. Aspaas, M.D.; Mr. David Nordin, Mr. John Mast; G. W. Knabe, M.D.; R. J. Foley, M.D.; M. Lyso, M.D.; A. J. Barrett, M.D.; H. Haugan, M.D.; L. C. Vogelgesang, M.D.; Mr. Todd Biegler.

A quorum was present for the meeting of the House of Delegates and the credentials of those in attendance were in order. A total registration for the convention is 329, including 166 physicians, 50 guests, 103 Auxiliary members, and 10 sponsors.

Respectfully submitted,  
Edward F. Daw, M.D., Chairman  
Reference Committee on Credentials

Dr. Leigh moved that the report of the Credentials Committee be accepted. The motion was seconded by Dr. Ortmeier and carried.

Dr. Bunker read the report of the Reference Committee on Reports of Officers and Councilors.

#### **REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF THE OFFICERS AND COUNCILORS**

The committee on Reports of Officers and Councilors has reviewed and approved the report of the president, and they wish to commend Dr. Muggly for his leadership and many hours of untiring service to the South Dakota State Medical Association.

The committee also reviewed the reports of the other officers and councilors and approved such reports. Recognition should be given to the Pierre District Medical Society for its outstanding efforts on behalf of the entire South Dakota State Medical Association in negotiating an acceptable contract with the Welfare Department with reference to the Title 19 contract.

A special note of commendation is made to the executive secretary, Richard C. Erickson, for his fine work in representing the State Medical Association in negotiations with the Welfare Department.

The report of the Council was received and approved.

The committee also wishes to extend its enthusiastic support and best wishes to the new president.

Respectfully submitted,  
C. L. Swanson, M.D., Chairman  
Thomas G. Bunker, M.D.  
H. O. Haugan, M.D.

Dr. Scheller moved that the report of the Reference Committee on Reports of the Officers and Councilors be accepted. The motion was seconded by Dr. Auskaps. Dr. Shaeffer made a motion concerning the contract with the Welfare Department; however, the motion died for lack of a second. The motion to accept the report was then carried.

Dr. Shaeffer read the report of the Reference Committee on Resolutions and Memorials.

#### **REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS AND MEMORIALS**

WHEREAS, the Ninth District Medical Society and the Ladies Auxiliary members have been so thorough in making arrangements for the success of the combined meeting of our 90th anniversary, BE IT RESOLVED, that the South Dakota State Medical Association give its voice in appreciation and thanks to the local physicians in Rapid City and their wives.

WHEREAS, the management of the Howard Johnson Motor Lodge has been so cooperative in providing facilities for the success of the 90th Annual Meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Howard Johnson Motor Lodge.

WHEREAS, the management of the Holiday Inn Motel has been so cooperative in providing facilities for the success of the 90th Annual Meeting of the South Dakota State Medical Association,

(Continued on Page 15)



(Continued from Page 12)

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Holiday Inn Motel.

WHEREAS, the Chamber of Commerce of Rapid City has provided excellent assistance in making it possible for the success of the working arrangements,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Rapid City Chamber of Commerce.

WHEREAS, the Rapid City Journal, KOTA and Rapid City Cable TV have been most cooperative in presenting the public news of the 90th Annual Meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Rapid City Journal, KOTA and Rapid City Cable TV.

WHEREAS, the Canyon Lake Club has provided facilities for the stag party and has contributed greatly to the success of the annual meeting,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Canyon Lake Club.

WHEREAS, the Black Forest Inn has provided facilities for the annual banquet and has contributed greatly to the success of the annual meeting,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Black Forest Inn.

WHEREAS, a large number of students from the University of South Dakota School of Medicine have attended the sessions of this annual meeting and participated in our deliberations,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to these students for their attendance and participation.

BE IT RESOLVED, that \$50 be donated to the South Dakota Medical School Endowment Association in memory of the following physicians who died during the past year:

N. E. Wessman, M.D.  
J. C. Smiley, M.D.  
F. E. Manning, M.D.  
Charles Combe, M.D.  
S. A. Keller, M.D.  
W. E. Morse, M.D.

Respectfully submitted,  
Reference Committee on  
Resolutions and Memorials  
James Shaeffer, M.D.  
Chairman

Dr. Mabey moved that the report of the Reference Committee on Resolutions and Memorials be accepted. The motion was seconded by Dr. Lushbough and carried.

Dr. Tracy read the report of the Reference Committee on Reports of the Commissions on Communications and Liaison and Medical Service.

#### REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF THE COMMISSIONS ON COMMUNICATIONS AND LIAISON AND MEDICAL SERVICE

The reference committee reviewed the report of the Commission on Communications and Liaison. Dr. Scheller moved that the reference committee recommend the acceptance of this report. The motion was seconded by Dr. Golliher and carried.

The committee reviewed the report of the Commission on Medical Service. Dr. Golliher moved that the reference committee recommend the acceptance of this report. The motion was seconded by Dr. Scheller and carried.

The committee reviewed Resolution #1 concerning osteopathic membership in the South Dakota State Medical Association. Dr. Golliher moved that the reference committee recommend to the House of Delegates that Article III, Section 1, of the proposed amended bylaws of the South Dakota State Medical Association be amended to read, "This As-

sociation shall consist of (a) active members, (b) life members, and (c) associate members, all of whom shall be doctors of medicine and/or osteopathy and licensed in the State of South Dakota or permitted to practice herein under the provisions of the Medical Practice Act," and that the second sentence under Section I and that Section II (d) be omitted. The reference committee recommends that the House of Delegates accept the proposed change in Article VII, Section 1, (b) of the bylaws.

Respectfully submitted,  
G. E. Tracy, M.D., Chairman  
D. L. Scheller, M.D.  
Warren Golliher, M.D.

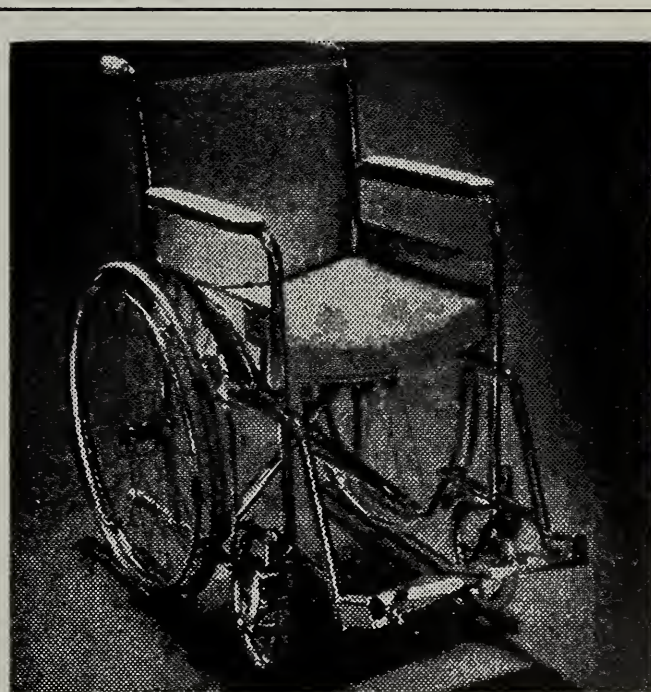
Dr. Lushbough moved that the report of the Reference Committee on Reports of the Commissions on Communications and Liaison and Medical Service be accepted. The motion was seconded by Dr. Seaman and carried.

Dr. Auskaps read the report of the Reference Committee on the Reports of the Commissions on Scientific Medicine, Internal Affairs, and Legislation and Governmental Relations.

#### REPORT OF THE REFERENCE COMMITTEE ON THE COMMISSIONS ON SCIENTIFIC MEDICINE, INTERNAL AFFAIRS AND LEGISLATION AND GOVERNMENTAL RELATIONS

Dr. Begley moved that the report of the Commission on Legislation and Governmental Relations be accepted. Motion was seconded by Dr. Ruud, vote called and carried.

Dr. Ruud moved that we accept the report of the  
(Continued on Page 19)



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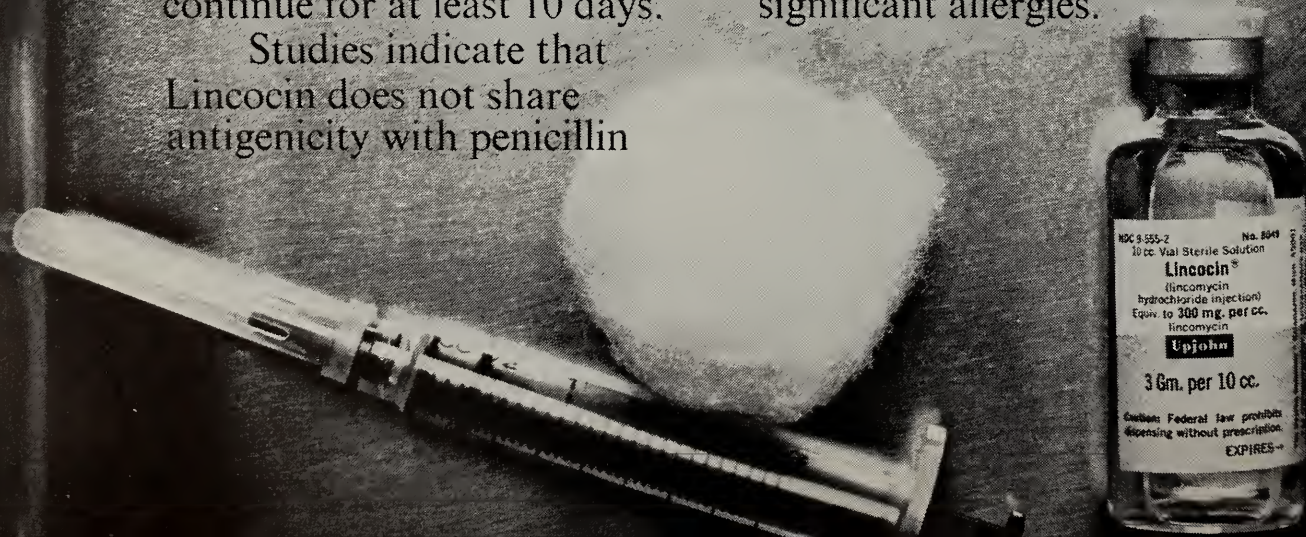


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(Continued from Page 15)

Commission on Internal Affairs. Dr. Begley seconded the motion, vote called and carried.

Dr. Auskaps stated that inasmuch as the budget was approved by the Budget and Audit Committee, no further action need be taken. The vote was called and carried.

Dr. Hayes discussed the Report of the Commission on Scientific Medicine. Dr. Ruud moved that the report be accepted as amended by the Council. Dr. Begley seconded the motion, vote called and carried.

Dr. Auskaps explained Resolution #2 on Abortion Guidelines. The resolution was discussed by members of the Medical Association and medical students. Following the discussion, Dr. Ruud moved that we reject this resolution and the material be forwarded to the Committee on Legislation for use at the proper time. The motion was seconded by Dr. Begley, vote called and carried.

The 4th Resolution was discussed by members of the Medical Association and medical students. Following the discussion, Dr. Ruud moved that the resolution on Fireworks Legislation be accepted. The motion was seconded by Dr. Begley, vote called and carried.

Resolution #7 was presented by Dr. Knabe and a lively discussion again followed. Dr. Begley moved that this resolution be rejected as being premature but we commend the 9th District for the basic concepts contained and urge them not to give up. Dr. Ruud seconded the motion, vote called and carried.

R. Auskaps, M.D., Chairman

E. T. Ruud, M.D.

B. J. Begley, M.D.

Dr. Rud moved that the report of the Reference Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, and Legislation and Governmental Relations be accepted. The motion was seconded by Dr. Honke. A discussion followed. Dr. Leander moved to table Resolution #4 and amend the report to delete and table that portion of the report dealing with Resolution #4. The motion was seconded by Dr. Bartron and carried. The original motion to accept the report as amended was then carried.

Dr. Lushbough read the report of the Reference Committee on Reports of Special Committees and Miscellaneous Business.

#### **REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF SPECIAL COMMITTEES AND MISCELLANEOUS BUSINESS**

The Reference Committee considered the report of the Executive Committee and recommends the acceptance of this report.

The Reference Committee considered the report of the Grievance Committee and recommends the acceptance of this report.

The Reference Committee considered the report of the State Utilization and Insurance Review Committee. The Reference Committee requests that the State Utilization and Insurance Review Committee redefine "concurrent care" to clarify the meaning of this term and provide the definition to the physicians of South Dakota. The Reference Committee recommends the acceptance of the report.

The Reference Committee considered Resolution #3 submitted by the Seventh District Medical Society concerning physician licensure laws. The Reference Committee recommends the adoption of this resolution.

The Reference Committee considered Resolution #5 submitted by the Seventh District Medical Society concerning the election of councilors. The Reference Committee recommends the adoption of this resolution.

The Reference Committee considered Resolution #6 submitted by the Seventh District Medical Society concerning the formation of a Sports Council. The Reference Committee recommends that the second "Resolved" concerning regulations to be drawn up be omitted from the Resolution. The Reference Committee recommends that the resolution be accepted

with this change.

The Reference Committee considered Resolution #8 submitted by the Council concerning the Med-credit bill. The Reference Committee recommends that this resolution be adopted by the House of Delegates.

Respectfully submitted,  
Reference Committee on Reports  
of Special Committees and  
Miscellaneous Business  
Bruce Lushbough, M.D., Chairman

Dr. Steele moved that the report of the Reference Committee on Reports of Special Committees and Miscellaneous Business be accepted. The motion was seconded by Dr. Reding. A discussion followed and Dr. Stransky moved that the recommendation of the Reference Committee to adopt Resolution #5 be deleted from the report. The motion was seconded by Dr. Muggly and carried. Dr. Leander moved to accept the amended report of the Reference Committee on Reports of Special Committees and Miscellaneous Business. The motion was seconded by Dr. Knabe and carried.

Dr. Lushbough announced that the American Medical Association has indicated that it will be happy to present a program concerning Medcredit at any district medical society meetings.

Dr. Elston administered the Oath of Office to Dr. G. Robert Bartron, the newly elected president. Dr. Muggly presented the Robert H. Hayes gavel to Dr. Bartron.

Dr. Elston introduced the new officers including Dr. W. R. Taylor, president-elect; and himself as Speaker of the House.

Dr. Ortmeier moved that the meeting be adjourned. The motion was seconded by Dr. Steele and carried.

#### **PRESIDENTIAL OATH OF OFFICE**

I solemnly swear that I shall carry out the duties of the President of the South Dakota State Medical Association to the best of my ability. I shall strive constantly to maintain the ethics of the medical profession and to promote the public health and welfare. I shall dedicate myself and my office to improving health standards and to the task of bringing increasingly improved medical care to the people of South Dakota. I shall uphold the Constitution and Bylaws of the AMA and the South Dakota State Medical Association. I shall champion the cause of freedom in medical practice and freedom for all my fellow Americans.

I do solemnly swear that I will discharge the duties of this office to the best of my ability, so help me God.

#### **REPORT OF THE PRESIDENT**

The changes which have been proposed in the delivery of health care have challenged our present system. This placed many responsibilities on our Association in the decisions it makes. What system will finally evolve? — Medcredit, the Administration's proposal, the Kennedy Bill, the Ameriplan, or others. Will South Dakota have health maintenance organizations, will South Dakota have a foundation for medical care? I have tried to keep abreast of these problems but it is near impossible.

In seeking knowledge I attended the annual session of the American Medical Association, the Six-State Peer Review Conference, the AMPAC meeting, and the National Congress of Socio-Economics of Health. The physicians' opinions were voiced at the various district visitations that I made. I attended the Council and Commission meetings, and there many other problems were discussed and decisions made. I attended meetings with the Welfare Department. I attended meetings of the Regional Medical Program and many others.

The Medical School and Medical Association have had a very fine relationship this past year. The Medical School Endowment Fund has good support from the doctors and many needy students have been able to continue in school because of this fund. Our liaison with other organizations has been good — the Medi-



colleagues Conference held last September is a good example.

During the past year the South Dakota Regional Medical Program has separated from Nebraska; it is awaiting funding before it can proceed further.

A successful legislative session was had this year on supported and introduced bills.

I wish to thank all members of the Association for their cooperation and kindness shown me. I wish to thank the officers, the councilors, the commission members for all the time and effort expended in making decisions and offering advice. My most sincere thanks to the staff of the Association for making my position easier. Your help has been invaluable.

Respectfully submitted,  
J. A. Muggly, M.D.  
President

*The Committee reviewed and approved the report of the president and they wish to commend Dr. Muggly for his leadership and many hours of untiring service to the South Dakota State Medical Association.*

#### REPORT OF THE PRESIDENT-ELECT

During the past year I have attended two regular Council meetings and one special Council meeting concerning medical education in South Dakota.

As a member of the Executive Committee I have participated in telephone conference calls.

No specific duties have been assigned to the President-Elect the past year.

Respectfully submitted,  
G. Robert Bartron, M.D.  
President-Elect

*The committee reviewed the Report of the President Elect and recommends its approval. The committee also wishes to extend its enthusiastic support and best wishes to the new president.*

#### REPORT OF THE VICE PRESIDENT

In June, 1970, a meeting was held with the Welfare Department in Pierre to discuss extended care and nursing facilities and welfare patients.

The Vice President represented the State Association at the National Congress for Health Manpower in Chicago in October, 1970, and concrete recommendations in regard to the Health Manpower problem were made by the Congress.

Respectfully submitted,  
W. R. Taylor, M.D.  
Vice President

*The committee reviewed the Report of the Vice President and recommends its approval.*

#### REPORT OF THE SECRETARY-TREASURER

As your officer, I attended the first meeting of the Budget and Audit Committee at the Ramada Inn in Sioux Falls on May 21, 1970, and the second at our executive office in Sioux Falls on December 16, 1970. I attended the Council meetings during the year.

The other duties of my office were carried out with the assistance of our competent executive secretary, Richard C. Erickson, and the staff at the Association office.

Respectfully submitted,  
A. P. Reding, M.D.  
Secretary-Treasurer

*The committee reviewed the Report of the Secretary-Treasurer and recommends its approval.*

#### REPORT OF THE AMA DELEGATE

I will attend the AMA meeting in Atlantic City June, 1971, as your delegate. This will be the first meeting in which I will be acting as official delegate. The interim meeting in Boston in December of 1970 was attended by Dr. Art Reding, Delegate, and myself, Dr. Joseph Muggly, your State President, and Dr. John Stransky, your new Alternate Delegate, were also in attendance, along with the staff and two of the medical students. A resume of the meeting has been printed in the State Journal.

Respectfully submitted,  
Robert H. Quinn, M.D.  
Delegate to AMA

*The committee reviewed the report of the AMA Delegate and recommends its approval.*

#### REPORT OF THE AMA ALTERNATE DELEGATE

My term as Alternate Delegate begins with the June, 1971, AMA meeting. In preparation I did attend the AMA clinical session in Boston in November of 1970. In addition, I have also attended the Council meetings, beginning in January, 1971.

Respectfully submitted,  
J. J. Stransky, M.D.  
Alternate Delegate to AMA

*The committee reviewed the report of the AMA Alternate Delegate and recommends its approval.*

#### REPORT OF THE SPEAKER OF THE HOUSE

As Speaker of the House I have attended Council meetings and participated in conferences of the Executive Committee of the South Dakota State Medical Association.

Chairmen and members of the Reference Committees will be appointed prior to annual meeting of the House of Delegates which meets in Rapid City, May 21-23, 1971.

Respectfully submitted,  
John T. Elston, M.D.  
Speaker of the House

*The committee reviewed the report of the Speaker of the House and recommends its approval.*

#### REPORT OF THE COUNCILOR AT LARGE

As Councilor at Large I have no specific matters to report to the House of Delegates. I have attended the meetings and participated in the deliberations of the Council and the Association.

Respectfully submitted,  
R. H. Quinn, M.D.  
Councilor at Large

*The committee reviewed the report of the Councilor at Large and recommends its approval.*

#### REPORT OF THE EXECUTIVE SECRETARY

As we did last year, we will attempt to keep this report as short as possible, but cover the highlights of the year's activities.

##### Liaison with District Societies

Continued liaison was kept with district medical societies by personal visitations at district meetings by President Muggly and/or members of the executive office staff. Due to bad weather cancellations, only ten of the districts were visited.

##### Public and Professional Relations

A major part of the everyday work of the Association is to attempt to create a better image of medicine for the public and to provide service to the individual physician. The problems of today's society, as it relates to health, are of major importance. Your staff attempted to keep you up to date by relaying information from some 60 meetings during the year. Staff travel totaled 50,000 miles, along with additional trips and conferences attended by President Muggly and other physicians.

##### Headquarters Building

The Association building measures approximately 11,000 square feet, and provides a most adequate facility for the Association and Blue Shield. All interest (\$5,008) was paid this year, plus notes and principal in the amount of \$9,766. It is expected that the building account will "net" approximately \$5,000 for the fiscal year after all expenses. We expect that all physician loans (\$8,800) to the building fund will be paid off by May, 1972.

##### Commissions and Committees

All commissions and most committees have met at least twice during the year and have reported directly to the House on their activities. The Utilization and Review Committee has been extremely busy, and we have seen an increased workload for the Grievance Committee this year. As to the work of the Grievance Committee, it should be noted that in most cases, poor public relations on the part of an individual physician creates cases for this Committee. Commendation should be given to the physicians



who regularly attend the meetings and take an active part in carrying on the work of the Association.

**Legislation**

During the 1971 legislative session the Association worked on more than 25 bills dealing with health care. Of prime concern was a bill sponsored by the Association which will allow **one or more** physicians to incorporate. This bill will become law on July 1. As for medical education, it should be noted that apparently the Medical School will receive \$857,400, which was the same as last year. This is fortunate inasmuch as the state's finances were extremely critical this year. A complete report of all bills is contained in the Commission report of the delegate's handbook.

**Blue Shield and Governmental Programs**

In 1970 Blue Shield processed claims totaling \$6,899,000, which includes underwritten business, plus Medicare, Medicaid and Champus. Blue Shield's continued growth included additions to reserve of \$170,000, or almost a 9 percent gain for the year. The one unfortunate situation that arose during the year occurred in March when it became necessary to cancel the Title 19 contract with the Welfare Department. It should be made clear to this body that Blue Shield took this action when it became evident that the Welfare Department intended to cut physician fees to a level which was unacceptable. Blue Shield, as an arm of medicine, could not be part of this unjustified action. Blue Shield's dedication to medicine is certainly obvious now, if it has not been so in the past.

**Journal of Medicine**

The report on the Journal finances cannot be as glowing as in the past. We had estimated "advertising income" at \$23,000, which it has been in the past, but as of March, it would appear that the total year's revenue will be approximately \$17,000. Drug companies are cutting advertising budgets drastically, and all journals are having a "bad year." We anticipate a loss of approximately \$1,500 for the year, compared to a gain of \$1,500 last year. It will be necessary to continue to publish a smaller journal

until such time as advertising increases. If advertising continues to decrease next year, a complete review of the journal will be necessary in late 1972. Dr. Van Demark and his publication staff deserve a vote of thanks for the many hours of work in conjunction with the journal.

**Summary**

There are many associations throughout the state of South Dakota, and on a comparison basis, we believe we stand in the front. If we can provide individual services to physicians, keep the public informed on good health care, play an active role in state legislative affairs and upgrade the image of medicine in South Dakota, then I believe we are fulfilling our mission. I am of the opinion that this has been, and will continue to be, accomplished. A vote of thanks to the officers and councilors of the Association for their hard work during the year. To President Muggly, a very special thanks should be forthcoming. He carried on as President through a most difficult time during his wife's illness and death.

Respectfully submitted,  
Richard C. Erickson  
Executive Secretary

*The committee reviewed the Report of the Executive Secretary and recommends its approval. A special note of commendation is made to the executive secretary, Richard C. Erickson, for his fine work in representing the State Medical Association in negotiations with the Welfare Department.*

**REPORT OF THE COUNCILOR  
FIRST DISTRICT**

September 2, 1970

Program: Mr. Tom Aman of Aman Collection Agency discussed "Financial Counseling and Collection Practices"

James Hockenberry, M.D., was accepted into the district society.

October 7, 1970

Program: Dr. Parikh of SDSU Bacteriology Department discussed "Encephalitis in Humans and Pheasants"

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November 4, 1970

Program: Robert Johnson, Director of Public and Professional Relations of SDSMA, talked on the present status of the Medical School, Medicare and Title 19 profiles.

December 2, 1970

Annual Election: (See directory of SDJM)

Doctors Bhattacharyya, Chang and Satteren were accepted into the district medical society.

January 6, 1971

Program: Film "Diabetes"

Voted to support the Auxiliary's Drug Education Program. Voted to support Breast Cancer Rehabilitation Program of the Brown County Cancer Society.

February 3, 1971

Program: Mr. Del Meester of the South Dakota Heart Association spoke on the pilot cardiac screening project in grade schools.

Voted to co-sponsor a newspaper supplement "The Drug Scene" in the Aberdeen American News newspaper.

March 3, 1971

Program: Film "The Case for Population Control"

Respectfully submitted,

David Seaman, M.D.

Councilor

First District

*The committee reviewed the Report of the First District Councilor and recommends the approval of the report.*

## REPORT OF THE COUNCILOR

### SECOND DISTRICT

The Watertown District Medical Society met at monthly intervals with the exception of June, July and August.

The April 7, 1970, meeting was highlighted by a panel discussion concerning malpractice insurance. The panel consisted of Mr. Ellis Hanson, local representative for St. Paul Mercury, and two individuals from the Home Office who spoke in regard to malpractice insurance, underwriting, and some of the problems involved.

The May meeting program was presented by Dr. Lawrence Farber, a neurologist from Minneapolis, who presented a program on the uses of the electroencephalograph. The business meeting concerned a presentation of resolutions to be submitted to the House of Delegates and further instruction to delegates in regard to all resolutions to be presented which were available at that time.

The September meeting was a social meeting with the wives present. A minimal amount of business was carried out and no program was presented.

At the October meeting, Dr. J. Muggly, State President of the Medical Association, accompanied by Bob Johnson from the State Office, presented the program.

In November the meeting found a program presented by Dr. Tom Bunker, otolaryngologist from Aberdeen, which was well received by the society.

At the December, 1970, meeting a program was presented by Dr. Joseph Kiser, cardiovascular surgeon from Minneapolis, covering surgical treatment of coronary artery disease. At this meeting officers were also elected for the calendar year 1971, and are as follows: President, Dr. Alden Heupel; Vice President, Dr. A. K. Brevik; Secretary, Dr. T. J. Wrage, Jr.; Board of Censors for two years, Dr. J. C. Larson; for three years, Dr. Richard Lillard; Dr. C. R. Stoltz has one year left to serve in his term; District Utilization Committee for three years, Dr. T. J. Wrage, Jr.; carry over for two years, Dr. J. Michieli; and carry over for one year, Dr. P. S. Nelson; Delegate for two years, Dr. R. Auskaps; carry over with one year left to serve Dr. D. N. Fedt; alternate delegates, Dr. A. K. Brevik and Dr. James Rud.

At the January, 1971, meeting no program was presented. The meeting time was taken up by a long discussion in regard to abortion. As a result, a resolution was adopted and submitted to the Council of the State Medical Association with a request that the Council resist any legislation on abortion which

did not contain at least the following provisions:

A. That no physician or other professional person shall be compelled to perform any act which violates his good medical judgment. Neither physician, hospital, nor hospital personnel shall be required to perform any act violative of personally held moral principles.

B. Residence requirement longer than the pregnancy.

C. No abortion on demand clause.

D. The permission of the husband in the case of a married woman.

The February, 1971, meeting had no program.

At the March, 1971, meeting a program was presented by a representative of Ortho on Blood Coagulations.

Respectfully submitted,

G. E. Tracy, M.D.

Councilor

Second District

*The committee reviewed the report of the Councilor for the Second District and recommends approval of this report*

## REPORT OF THE COUNCILOR

### THIRD DISTRICT

The following meetings were held during the past year in the Third Medical District.

On June 11, 1970, at Brookings, Dr. Warren Jones presented a lecture on the Recognition and Treatment of Intractable Heart Failure. Dr. Muggly from Madison, newly elected President of the South Dakota State Medical Association, presented a detailed report of upcoming changes in medical care programs outlined for the State of South Dakota.

On October 8, 1970, members of the Third District attended a presentation by Dr. G. Tuohy of Sioux Falls concerning the South Dakota State Department of Health program concerning ambulance service in South Dakota. Richard C. Erickson, executive secretary of the State Association, discussed pertinent business relative to the state office, and Dr. J. A. Muggly, state president, made his official visitation to his home district.

On January 14, 1971, Dr. George Morris and Mr. Paul Groth of the Nebraska-South Dakota RMP made presentations on the subject of the regional drug information network. A slide-illustrated lecture was presented on the purposes and benefits of AMA membership.

On Thursday, March 11, 1971, the final meeting of the Third District Medical Society of the current year was held. The program was sponsored by the South Dakota Heart Association and considered the proposal of heart screening of third and fourth graders with a phono-cardioscan machine. This was followed by Methods of Surgical Treatment of Coronary Artery Occlusion Bypass Surgery.

The officers for the year 1970 for the Third District Medical Society are:

President: Dr. H. J. Stensrud

Vice President: Dr. F. X. McCabe

Secretary-Treasurer: Dr. C. M. Kershner

Delegates: Doctors R. J. Belatti and Donald Scheller

Alternates: Dr. H. R. Wold and Dr. Werner Klar

Censors: Dr. C. S. Roberts, Chairman, Dr. B. C.

Lushbough and Dr. R. G. Belatti.

Respectfully submitted,

B. C. Lushbough, M.D.

Councilor

Third District

*The committee reviewed the report of the Councilor of the Third District Medical Society and recommends the approval of this report.*

## REPORT OF THE COUNCILOR

### FOURTH DISTRICT

A meeting was held on March 10, 1971, with election of officers. The following officers were elected:

President: Dai H. Park, M.D.

Vice President: B. O. Lindbloom, M.D.

Secretary-Treasurer: J. T. Cowan, M.D.

Censors: Barbara Spears, M.D.; E. H. Collins, M.D.;



Dai H. Park, M.D.  
Delegate: N. J. Sundet, M.D.  
Alternate Delegate: R. J. Zakahi, M.D.

Named to the Utilization and Review Committee were L. C. Askwig, M.D.; R. J. Zakahi, M.D., and A. J. Tieszen, M.D.

R. C. Jahraus, M.D., was named Chairman of the Diabetes Detection Committee. N. J. Sundet, M.D., was nominated to the Nominating Committee. Councilor names submitted were L. C. Askwig, M.D.; M. M. Morrissey, M.D. and C. L. Swanson, M.D.

It was moved and seconded that G. J. Van Heuvelen, M.D. become an Honorary Member of the State Medical Association.

This meeting was particularly directed toward the contract set by the government in regard to Title 19. In discussion, it was felt that this was a poor piece of paper, that it did not involve the South Dakota State Medical Association, the Board of Blue Shield or the Welfare Committee, and further, that this was strictly another government attempt to control medicine more thoroughly than it has in the past. A poll was not taken to determine the number of doctors who would sign the contract because of a lack of all members being present. The meeting was adjourned with no specific action taken on this item.

Respectfully submitted,  
C. L. Swanson, M.D.  
Councilor  
Fourth District

*The committee reviewed the Report of the Councilor of the Fourth District Medical Society and recommends approval of this report. Recognition should be given to the Pierre District Medical Society for its outstanding efforts on behalf of the entire South Dakota State Medical Association in negotiating an acceptable contract with the Welfare Department with reference to the Title 19 contract.*

#### REPORT OF THE COUNCILOR FIFTH DISTRICT

October 15, 1970

The Huron District Medical Society met on October 15, 1970, in conjunction with the Auxiliary. Dr. Muggly, accompanied by Mr. Erickson, were guests. The meeting was devoted to these two distinguished guests, and they used this time discussing many various and sundry subjects, including ambulance, Medicare and Welfare programs. There was a great deal of discussion concerning the Medical School at Vermillion. Mr. Erickson also discussed the physician's profile as related to present medical care payments.

Following this discussion, there was a short business meeting, and during this meeting there was a considerable discussion concerning comprehensive medical planning locally and on a regional basis. This was spearheaded by Dr. Roscoe Dean of Wessington Springs and Dr. Paul Hohm of Huron. A committee was appointed to represent the district at a meeting in Wessington Springs in regard to this regional plan.

December 3, 1970

The Huron District Medical Society met on December 3, 1970. This was the annual meeting. The treasury report was given for the year by Dr. Hofer, the secretary-treasurer. There was considerable discussion on doctors' responsibility in drawing alcohol blood tests. After considerable discussion, it was requested by the District Medical Society that the secretary-treasurer, who is also the City Physician and can go through the City Attorney, Mr. Fingerson, obtain from the Attorney General's Office in Pierre exactly what is involved here in the responsibility of drawing blood, especially when you do it on your own patients.

The election of officers for 1971 followed this. Dr. James Monfore was elected president, Dr. Clifford Gryte was elected vice president and Dr. Emil Hofer was elected secretary-treasurer. It was also moved that the two past presidents act as our delegates for the 1971 state meeting and that the president and secretary-treasurer act as alternates. Dr. Theodore Hohm was then elected to the Board of Censors.

At the time of this report we have not had our

February meeting in 1971, and also have a pre-State Medical Convention meeting in April before the annual meeting in Rapid City in May. The Councilor has given brief reports to each member during the year following our Council meetings in September, December and January.

Respectfully submitted,  
F. D. Leigh, M.D.  
Councilor  
Fifth District

*The committee reviewed the Report of the Councilor from the Fifth District Medical Society and recommends approval of the report.*

#### REPORT OF THE COUNCILOR SIXTH DISTRICT

The Sixth District Medical Society has had six meetings in 1970:

The first meeting was April 17, 1970, where besides the business meeting the guest speaker, Dr.

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Alexander Schirger from the Mayo Clinic in Rochester, Minnesota, spoke to the society on the "Investigation and Treatment of the Hypertensive Patient" with a discussion following.

On June 26, 1970, a guest speaker was also present, and the guest was Dr. Paul Andreini, an internist from the Department of Rheumatology in the Mayo Clinic, who presented a paper on "A Review of Current Knowledge and Therapeutics of Collagen Disease, Arthritis and Gout" and a discussion followed.

September 11, 1970, a paper was again given by Dr. Alexander Schirger from the Mayo Clinic discussing "Malignancy in the Cardiovascular System."

October 9, 1970, a meeting was held in which Dr. Mahlon Burbank from the Department of Cardiology at the Mayo Clinic presented "Cardiovascular Emergencies and Pulmonary Embolism."

November 19, 1970, the business meeting of the society was followed by a visit by Mr. Richard C. Erickson, executive secretary, and the current problems with the Bennett Amendment, consultation service and relative fee schedules were discussed as they applied to the Medicare and Medicaid programs.

December 11, 1970, following the business meeting was a presentation by Dr. John Stokes of the Department of Cardiovascular Diseases from the Mayo Clinic on "The Management of Acute Myocardial Infarction and Its Complications with Particular Emphasis on Intensive Coronary Care." At that December meeting new officers were elected, and they are as follows:

President: Dr. Harvard Lewis  
Vice President: Dr. Jack Berry  
Secretary-Treasurer: Dr. Ralph Erdmann  
Delegates: Dr. Judd Mabee, Dr. Richard Gere  
Alternates: Dr. John Judge, Dr. James Vose  
Councilor: Dr. Harvard Lewis

Respectfully submitted,  
Harvard R. Lewis, M.D.  
Councilor  
Sixth District

*The committee reviewed the Report of the Councilor from the Sixth District Medical Society and recommends approval of this report.*

## REPORT OF THE COUNCILOR SEVENTH DISTRICT

The officers of the Seventh District Medical Society are as follows:

Richard B. Leander, M.D., President  
Edward Daw, M.D., Vice President  
James Shaeffer, M.D., Secretary  
Robert R. Giebink, M.D., Treasurer

The Society has a total of 126 regular members, three associate members, ten honorary members and four physicians eligible for membership.

The Society meets the first Tuesday of each month except for June, July and August. The Board of Directors meets the night before the regular meeting and conducts the business of the Society. Business requiring the action of the full membership is presented at the regular meeting the following evening. During the past year, two meetings were held with the wives at which no business was conducted. A special meeting was held to consider the Title 19 problem at which Mr. John Madigan was present. Since that time, the Welfare Department has not instituted the 10 percent cut in allowances which had been anticipated, however, the Welfare Department is now processing claims submitted under the Title 19 program in South Dakota.

Respectfully submitted,  
E. T. Lietzke, M.D.  
Councilor  
Seventh District

*The committee reviewed the Report of the Councilor from the Seventh District Medical Society and recommends the approval of this report.*

## REPORT OF THE COUNCILOR EIGHTH DISTRICT

September 1970

The meeting was held at the Prairie in Vermillion, with approximately 70 attending. Dr. Knabe introduced the following professors: Cobb, Adams, Phillips, Hung, Combe, Sweeney, Habuska and Stach. Dr. Behan and Dr. Engen discussed the subject of drug abuse and how it is related to South Dakota.

Dr. Behan called the formal meeting to order. The minutes of the last meeting were missing. Dr. Clark Johnson reported on the state convention activities. The subject of profiles of physicians' charges was discussed. General opinion was that South Dakota was low and efforts to change should be via the Public Health Department and not the Social Security Department. Dr. Knabe discussed RMP and legislative activities.

Dr. Sattler moved and Dr. Thompson seconded that the district encourage implementation of a study of medical education planning, and to defer any action on compact programs via our district councilman, Clark Johnson.

A discussion of South Dakota State College nursing program ties with Minnesota ensued with general disapproval.

New members who were unanimously voted in as members of the Eighth District included Doctors English, Doubrava, Combe and Fletcher. The meeting was adjourned.

December 1970

Dr. McVay related a brief history of the medical school asking for a temper of the Eighth District regarding a four year medical school. He discussed St. Paul, Minnesota's activity regarding NAME, which is Northern Association of Medical Education regarding compacts with other states for the last two years of medical school. Dr. McVay strongly suggested that we have councilmen well informed on these activities and that there will be a meeting December 5, 1970, in Sioux Falls, S. D. As of the present time, considerable activity is taking place without consultation with the medical educators of the state of South Dakota. Dr. McVay also predicts radical changes in the curriculum of the future medical schools as well as internships and residencies.

Due to the late hour and the length of the discussion concerning the medical school, further business was dispensed with, exception being the acknowledgment of the resignation of Dr. Clark F. Johnson from the Council. Nominees were Dr. Foley, Dr. Stanage and Dr. Reaney, and their names will be presented to the Council for approval.

Respectfully submitted,  
D. B. Reaney, M.D.  
Councilor  
Eighth District

*The committee reviewed the report of the Councilor of the Eighth District Medical Society and recommends the approval of this report.*

## REPORT OF THE COUNCILOR NINTH DISTRICT

The Ninth District held meetings on February 10, April 9, May 12, August 27, September 29, December 10, 1970. All meetings were held at Arrowhead Country Club in Rapid City unless otherwise indicated.

The bulk of the February meeting concerned a request from the osteopathic physicians in Sturgis that they be permitted to use physicians from the Veteran's Hospital at Fort Meade as consultants. A spirited, and at times rancorous, discussion followed during the course of which no fewer than eight motions were made, five of which were defeated. Eventually the entire matter was tabled, and a committee was appointed by Dr. Golliher to further investigate the matter and report at the next meeting. This motion did pass and was greeted by a sigh of relief. It was then voted to send letters to the South Dakota State Medical Association regarding the district's opposition.

(Continued on Page 29)



(Continued from Page 24)

tion to two matters: 1) The request from Blue Shield wanting information as to whether or not an individual patient had other insurance besides Blue Shield, and the name of the other companies if present, and 2) The opposition of the district to House Bill 531 concerning the penalty for drug violations. A letter was then read from Dr. Hayes regarding withdrawal of South Dakota from association with Nebraska in the Comprehensive Health Planning system and the RMP and the possible merging of these two programs in South Dakota.

Following this, Dr. Jerde presented an excellent discussion and slide illustration on the techniques, value and uses of the fiber gastroscope.

The April meeting was carried out in comparative tranquility; and with only brief amendments, the report from the Committee concerning the V. A. consultants used at the Sturgis Community Hospital was accepted. Following this, Doctors Elston and Lampert discussed Comprehensive Health Planning, both for the district and the state; and Doctors Elston and Marousek were appointed to remain on the District Comprehensive Planning Committee. Mr. Robert Warnick of the Division of Public Affairs for the American Medical Association then gave two slide presentations, one on AMPAC and the other on Public Affairs. Mr. Johnson of the State Medical Association then discussed Blue Shield profiles and the entry on the Blue Shield claim form which requests information as to whether or not the patient in question has other insurance. Again, this resulted in a somewhat tempestuous discussion, but no specific recommendations were moved and the meeting was eventually adjourned.

A rather brief and placid meeting was held in May, the main items of business being the appointment of Doctors Angelos and Elston to the Board of SoDaPAC, and advice to the delegates concerning resolutions that had been presented for the South Dakota State Medical Association meeting in May. A brief discussion was led by Dr. Elston concerning recent CBS programs concerning the status of medicine in the United States; and although local radio stations had offered time to the Society for rebuttal, it was decided to avoid this potentially lethal trap, and to be content with whatever action the AMA might decide to initiate.

The August meeting was held at Ellsworth Air Force Base under the sponsorship of Colonel Sanford and his staff. As always, the membership was treated to a fine social hour and dinner, following which Dr. Orr spoke on Space Medicine, a program which was very well received. No business matters were discussed at this meeting.

In September the Society was back at Arrowhead Country Club. The main item of business was the participation of the district in the ensuing fluoridation election. Following some discussion, it was moved and passed that the Black Hills District Medical Society donate \$500 to the South Dakota State Dental Society to be used in their advertising campaign to promote fluoridation of water, and permission for the Dental Society to use the names of individual physicians in their newspaper advertising. Following this, Dr. Donald Duncan of Minneapolis spoke on the Management of Edema and discussed in detail the advantages and disadvantages of the various diuretic compounds including their physiology, side-effects and efficiency.

The December meeting was the annual business dinner with wives as guests. Dr. Ruud gave a report concerning a recent meeting held in Sioux Falls on December 5 to discuss medical education in South Dakota, and a many-sided, but pertinent, discussion followed. The financial report for the district, dated December 10, was presented and accepted; and following this, the Nominating Committee presented for consideration the officers for 1971, which consisted of Dr. Angelos, president; Dr. Harris, vice-president; Dr. J. Kovarik, secretary-treasurer. These candidates were unanimously elected by the membership. A committee was then appointed for a suit-

able memorial for Dr. Smiley; and the district was then addressed by Dr. Joseph Muggly of Madison, president of the State Medical Association. An excellent dinner was held, following which Dr. Golliher presented Dr. Frieda Radusch with her Fifty-Year Award for the practice of medicine in South Dakota; and the Society's year came quietly to a close, with some battles won, some lost, and the future "seen through a glass, darkly."

Respectfully submitted,  
E. T. Ruud, M.D.  
Councilor  
Ninth District

*The committee reviewed the Report of the Councilor from the Ninth District Medical Society and recommends the approval of this report.*

#### REPORT OF THE COUNCILOR TENTH DISTRICT

The Rosebud District Medical Society met three times during the past year, however, the president of the State Medical Association was unable to make his official visitation to the district this year, and no other business was presented.

Respectfully submitted,  
M. R. Cosand, M.D.  
Councilor  
Tenth District

*The committee reviewed the Report of the Councilor from the Tenth District Medical Society and recommends the approval of this report.*

#### REPORT OF THE COUNCILOR ELEVENTH DISTRICT

I assumed the duties of Councilor of the Northwest District Medical Society during the state meeting of 1970. I attended that meeting and also the meetings in Vermillion and Sioux Falls. During the past year we have met one time formally and many times informally. During the past several months we have been in contact with many members of the staff in this district over local and state problems, usually by telephone. The doctors at Mobridge have extended an invitation to the doctors in our district to attend medical hospital meetings monthly for a view of hospital problems and also clinical review on instruction by our staff and by visiting pathologists from Sioux Falls.

Respectfully submitted,  
J. E. Ryan, M.D.  
Councilor  
Eleventh District

*The committee reviewed the Report of the Councilor from the Eleventh District Medical Society and recommends the approval of this report.*

#### REPORT OF THE COUNCILOR TWELFTH DISTRICT

The Whetstone Valley District Medical Society met four times.

Emphasis has been primarily on recruiting physicians to replace those lost during the past year. Three meetings featured professional presentations and one a visit by the State Medical Society President.

Respectfully submitted,  
Eldon E. Bell, M.D.  
Acting Councilor  
Twelfth District

*The committee reviewed the Report of the Councilor from the Twelfth District Medical Society and recommends the approval of this report.*

#### REPORT OF THE COUNCIL

The Council has met four times during the past year; in September, December, January and April. The September meeting was held in Vermillion



prior to the Medical-Legal Conference. All other meetings were held in Sioux Falls. The meetings were well attended by the officers, councilors and commission chairmen.

Minutes of all Council meetings are published in the SOUTH DAKOTA JOURNAL OF MEDICINE.

Respectfully submitted,  
Harvard Lewis, M.D.  
Chairman of the Council

*The committee reviewed the Report of the Council and recommends the approval of this report.*

#### REPORT OF THE COMMISSION ON COMMUNICATIONS AND LIAISON

Meetings of the Commission on Communications were held August 22, 1970 and March 27, 1971.

The Commission members considered a resolution from the House of Delegates regarding osteopathic membership in the Association. The Commission recommended to the Council that the State Medical Association allow osteopaths to become affiliate members of the South Dakota State Medical Association with all privileges including representation on the various Commissions, but excluding representation on the Council and House of Delegates; that the dues structure remain the same for osteopathic members as for other professional members, and allowing the individual districts at their discretion to permit osteopathic membership in their district medical societies.

The Commission discussed the problems of the South Dakota Journal of Medicine and recommended that the South Dakota Journal of Medicine, being one of the three journals in the United States in relatively sound financial status be preserved as it is without consideration of regionalization under other state or regional journals.

The Commission recommended that a pamphlet on medicine from the Hospital Association be published.

The Commission reviewed a joint statement on the administration of anesthesia during labor and delivery from the Nurses Association, and recommended that paragraph four be changed and that "or should not be allowed" be deleted. And that paragraph six be revised to read "Hospitals should attempt to provide necessary coverage in the delivery room as either an M.D. or a certified R.N.A. in the administration of anesthesia." The following paragraph should be added. "It should be understood that in certain instances in certain areas, certified nurses may not be available; in these cases, the most qualified persons should be used."

The Commission considered the proposed joint statement on the role of a registered nurse performing vaginal examinations from the Nursing Association. The Commission recommended that paragraph three B be revised to read "policies be established stating that 'if' nonsterile digital and speculum vaginal examinations 'are to be' performed on a non-pregnant woman for the purpose of obtaining a specimen for diagnostic examination, then that protocol of the procedure be written regarding technique to be performed."

Because of the success of the medical-legal symposium in September 1970, a further medical-legal symposium was suggested and this will be held on September 18, 1971. Mr. Stan Siegel, representative of lawyers, is to be contacted to name a three man committee from the Bar Association and a three man committee consisting of Doctors H. Phil Gross, B. J. Williams and Karl Wegner were appointed from the Medical Association.

Bob Johnson briefly reported on the booth sponsored by the South Dakota Medical Association at the South Dakota Education Association Convention last year. This booth was felt to be helpful in educating many of the teachers and it was recommended that this be continued for the following year.

The Commission recommended to the Commission on Medical Service and the Council that a committee be established to determine an appropriate relative value schedule to be utilized by the State Medical Association for the determination of fees

from medical-legal testimony.

Bob Johnson discussed Community Health Week and made the plea that physicians take a personal approach in their communities in order that wider publicity for this Community Health Week the following year be more effective.

The Commission members reviewed the brochures MEDICAL CAREERS IN SOUTH DAKOTA and DOCTOR OF MEDICINE. Suggestions for corrections were made.

Respectfully submitted,  
John F. Barlow, M.D.  
Chairman,  
R. E. Van Demark, M.D.  
A. J. Tieszen, M.D.  
Eldon Bell, M.D.  
R. G. Belatti, M.D.  
D. L. Scheller, M.D.  
H. H. Theissen, M.D.  
Romans Auskaps, M.D.  
Mary Sanders, M.D.  
Loren Amundson, M.D.  
W. O. Hanson, M.D.  
J. L. Vose, M.D.  
David Howe, student representative

*The reference committee reviewed the report of the Commission on Communications and Liaison and recommends the acceptance of this report.*

#### REPORT OF THE COMMISSION ON MEDICAL SERVICE

The Commission on Medical Service held two regular meetings and one special meeting during the year and considered the following problems.

At the August meeting a lengthy discussion was conducted concerning a study on the various methods of health care delivery. Subsequent to this, Doctor Parrish was requested to furnish the Commission with information concerning this proposal to aid community health and submit proposals in establishing a Community Health Care Program through the University of South Dakota.

Continuing liaison between the Medical School Admissions Committee and the Commission on Medical Services has been considerably improved over the past two years.

The Commission reviewed an insurance company's refusal to accept the application of a physician for an overhead expense protection plan which had previously been endorsed by the Association. Through proper channels this problem was cleared and the physician was granted a policy.

A special meeting was held December 5, 1970, to consider proposals for expanding the present two year medical school into a four year school and providing the years of clinical training in the state of South Dakota. As a result of this discussion and presentation, the Commission recommended to the Council that the philosophy, goals and concepts of the 1970 University of South Dakota Medical School program for an M.D. degree granting program be approved by the Council; and that the President of the University of South Dakota, the Board of Regents and the Governor be apprised of the report and urged to proceed with the study and implementation of the degree granting program at the University of South Dakota Medical School.

At the March meeting discussions were carried out regarding various methods of health care delivery, including the foundation approach. The Commission at this time recommended to the Council that a committee study the foundation program concept and see what application it might have for South Dakota.

The Commission also met with Doctor George Knabe, Dean of the Medical School, Doctor Henry Parrish, acting coordinator of the Regional Medical Program, and Doctor Bowen, President of the University of South Dakota, to discuss problems involving the Regional Medical Program and the Medical School.

The Commission also recommended to the Council that a committee be established to determine an



appropriate relative value schedule to be utilized by the State Medical Association for the determination of fees for medical-legal testimony.

The Commission recommended to the Council that the State Medical Association petition the United States Government soliciting the state of South Dakota as a draft deferred state because of the shortage of doctors throughout the state.

The Commission was originally chaired by Doctor Gerald Tuohy, however, following his departure from the state, the chairmanship for the balance of the year was assigned to Doctor B. C. Gerber.

Respectfully submitted,  
B. C. Gerber, M.D., Chairman  
G. E. Tracy, M.D.  
M. G. Mutch, M.D.  
W. B. Odland, M.D.  
Warren Jones, M.D.  
T. H. Sattler, M.D.  
George Wood, M.D.  
E. T. Ruud, M.D.  
R. F. Hubner, M.D.  
J. O. Mabee, M.D.  
F. R. Williams, M.D.  
Don Rollins, student representative

*The reference committee reviewed the report of the Commission on Medical Service and recommends the acceptance of this report.*

### REPORT OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

There were two meetings of the Commission, the minutes of which are herewith included.

Despite a very busy legislative session, the goals toward which the efforts of the Association were directed in the legislature, were for the most part very successful. The staff of the SDSMA which conducted the lobbying in the legislature this year are to be complimented for their good work and the fact that the expense to the Association was very reasonable, considering the importance and the number of matters which were handled during the session.

Matters to which the Association must direct attention next year include the following:

1. Relicensing and recertification of competence of physicians.
2. Modernization of the medical licensing laws for South Dakota and the United States.
3. Malpractice legislation and relief from the constant threat of lawsuits aimed at physicians.
4. Peer review corporation.
5. Legislation regarding change in the abortion laws.
6. Possible changes in the Podiatry Practice Act.
7. Close liaison between the physicians who sit in the legislature of South Dakota and SDSMA.
8. The training, employment and utilization of assistant physicians in South Dakota.

The next meeting of the Commission will be held in September 1971.

#### Commission Meeting - August 22, 1970

Members present: Doctors Foley, Church, Hayes, Wold, Gregg. USD representative, C. Gunderson. Also present: Doctors J. A. Muggly, Eldon Bell, Messrs. R. Erickson, W. May, R. Johnson.

#### Items of Business:

1. Minutes of the last meeting were dispensed with by virtue of having been published.

2. Legislation regarding illumination of bicycles upon the highway has been enacted in this state in the past and only needs implementation. It was the recommendation of the Commission that the SDSMA correspond with Attorney General Gordon Mydland and the S. D. State Police Officers and Sheriffs Association reminding them of the potential danger of non-illuminated bicycles and requesting their assistance in this problem.

3. No reply has been received by the SDSMA concerning an inquiry regarding the improvement in medical and other services which have followed the

removal of the S. D. School for the Blind from Gary to Aberdeen. It was the recommendation of the Commission that the SDSMA send another letter, this time to Mr. Ben Hins, asking for the information desired and that this matter be again discussed at the next Commission meeting.

4. Change in law to allow incorporation by one physician was discussed by Mr. W. May. It was the recommendation of the Commission that the SDSMA sponsor such legislation at the next session of the S. D. legislature.

5. Status of physicians under the "Implied Consent Law" was discussed by Mr. W. May and the Commission. In view of the expressed opinion by Mr. May that this law is an adequate safeguard for the physicians, no action was taken.

6. Abortion legislation. It was M/S/C (Hayes/Wold) that the SDSMA concur in the recent AMA Policy Statement on Abortion herewith enclosed. It was the strong feeling of the Commissioners assembled that the second paragraph of the **Resolved** portion of the AMA Policy Statement be emphasized in any discussion by the SDSMA or release to the press. It was M/S/C (Church/Wold) that the SDSMA investigate the possibility of retention of criminal penalty for those other than licensed medical practitioners who are instrumental in the production of abortions. It was the further recommendation of the Commission that the SDSMA **not sponsor legislation relating to abortion but be in a consultative capacity** in discussions relating to such legislation and work for a program which conforms to the AMA Policy Statement.

7. Legislation prohibiting fireworks in S. D. It was M/S/C (Wold/Foley) that the SDSMA **endorse and strongly support** legislation to outlaw fireworks other than displays put on by trained personnel. The Commission accepted and recommended to the Council of the SDSMA a resolution submitted by Dr. R. H. Quinn, a copy of which accompanies this report.

8. Hearing aid dealer licensing law change to include licensure of practicing physicians if they dispense hearing aids during the course of their practice was discussed at length. It was M/S/C (Hayes/Wold) Gregg abstaining, that hearing aids, like drugs or any other appliance used to treat human illnesses should be dispensed by the physician in his office if the best interest of the patient is served thereby and that the SDSMA be on record as **opposed** to the change in the Hearing Aid Dealers Licensing Law.

9. Health facilities for mass public gatherings. It was M/S/C (Church/Wold) that the SDSMA **endorse** legislation introduced by the S. D. Public Health Association, or others, to promote this matter.

10. It was the unanimous recommendation of the Commission that the SDSMA **endorse** continued support of the U.S.D. Medical School and strive for an increased budget for the next biennium (suggested \$1,250,000).

11. Doctor Hayes reported briefly upon changes in the S. D. Health Department and reported that the Health Advisory Committee in the future will be an important part of his Department.

12. Doctor Bell discussed the drug abuse problem in South Dakota and requested that the SDSMA endorse legislation to promote teaching about this problem in the schools in the state, by the teachers. It is the recommendation of the Commission that the SDSMA **endorse** such legislation if Dr. Bell or others can get such legislation introduced and can overcome the opposition to it which was present at the last session of the legislature.

13. The next meeting of the Commission will be in early 1971, the next date not having been set now.

14. The Commission requests that the Council of the SDSMA empower Mr. R. C. Erickson, Mr. R. Johnson, the physicians who are members of the S. D. legislature, and the chairman of this Commission to act for the SDSMA at the time of the next legislative session. Whenever possible, consultation will be had with the members of the Commission and the President of the SDSMA prior to action upon legislative matters.



## AMA POLICY STATEMENT ON ABORTION

WHEREAS: Abortion, like any other medical procedure, should not be performed when contrary to the best interests of the patient since good medical practice requires due consideration for the patient's demands; and

WHEREAS: The standards of sound clinical judgment, which together with informed consent should be determinative according to the merits of each individual case;

THEREFORE BE IT RESOLVED, That abortion is a medical procedure and should be performed only by a duly licensed physician and surgeon in an accredited hospital acting only after consultation with two other physicians chosen because of their professional competency and in conformance with standards of good medical practice and the Medical Practice Act of his State;

AND BE IT FURTHER RESOLVED, That no physician or other professional personnel shall be compelled to perform any act which violates his good medical judgment. Neither physician, hospital, nor hospital personnel shall be required to perform any act violative of personally held moral principles. In these circumstances good medical practice requires only that the physician or other professional personnel withdraw from the case so long as the withdrawal is consistent with good medical practice.

## RESOLUTION ON PROHIBITION OF FIREWORKS

WHEREAS: The South Dakota State Medical Association is constantly striving to improve the health, safety and well-being of the citizens of South Dakota, and

WHEREAS: Deaths, serious injury and property damage have occurred during the year 1970 as a result of the promiscuous sale and use of fireworks in South Dakota.

THEREFORE BE IT RESOLVED, That the South Dakota State Medical Association go on record as being opposed to the general sale and use of fireworks, and

BE IT FURTHER RESOLVED, That the South Dakota State Medical Association do all in its power to urge the South Dakota State Legislature to adopt laws restricting the sale and use of fireworks within the State of South Dakota.

### Commission Meeting - March 27, 1971

Meeting called to order at 1005, adjourned at 1500. Members present: Doctors Gere, Church, Foley, Hayes, Gregg. Student representative - Clark Gunderson. Also in attendance: Doctors Muggly, Bell, Shaeffer, Rudolph, Adams, Gross, Van Demark, and Messrs. R. C. Erickson, R. Johnson, Ron Schmidt, Student representatives - Dave Rothenberger and Don Rollins. Guests: Doctors Shindler and Scofield representing the South Dakota Podiatry Association.

Minutes of the last meeting were dispensed with, having been published.

BUSINESS: 1. Review of 1971 legislative action by Mr. Erickson.

### SPONSORED BILLS

H.B. #590 - **Medical Corporation Law.** Amends present law to allow one physician to incorporate. **Final Passage.**

### ENDORSED BILLS

S.B. #8 - **Fireworks.** Prohibits sale, possession or transportation of fireworks within the state. Limits wholesaling of fireworks to licensed persons for display purposes. Local firechief or sheriff determines qualifications of applicants. **Bill Killed.**

S.B. #28 - **Drug Education.** Requires all public and private elementary and secondary schools to give special instruction on alcoholic drinks, drugs and narcotics. **Final Passage.**

S.B. #34 - **Drug Law.** Amends Drug and Controlled Substances Law of 1970 by adding additional drugs and reducing some penalties for possession, use or selling of drugs. Judiciary Committee removed penalty provisions. **Final Passage.**

S.B. #43 - **V. D. Treatment.** Allows examination and

treatment of minors for V. D. without parental consent. Does not allow disclosure of information with consent of minor. **Final Passage.**

S.B. #247 - **Optometric Law.** Amends law to prohibit advertising of ophthalmic appliances. **Bill Killed.**

H.B. #549 - **Regional Medical Education Board.** Establishes Board to promote and plan medical education in Iowa, Minnesota, North and South Dakota. **Final Passage.**

H.B. #568 - **Medical Service Liability.** Provides that persons and organizations engaged in the transplantation, injection, transfusion or transfer of human tissue, organs and blood shall not be liable for damages except for their own negligence. **Died in Committee.**

H.B. #679 - **Health Professions Loan Fund.** Appropriates \$195,000 for loan fund. Loans available to South Dakota students of medicine, osteopathy, veterinary medicine and dentistry. Amended to \$125,000 by Appropriations Committee. **Final Passage.**

H.B. #688 - **Physicians' Assistants Pilot Study.** Appropriates \$200,000 to conduct a pilot program to study utilization of physicians' assistants in South Dakota. **Died in Committee.**

H.B. #747 - **Basic Science Law.** Amends law to allow for waiver of examination if the applicant is duly licensed elsewhere and has practiced for five years prior, and a member in good standing of his professional society, and if he has no proceedings against him which might cause revocation of license. **Final Passage.**

H.B. #839 - **Health Professions Loan Act.** Amends act to allow an additional 10 percent forgiveness of the loan to persons practicing in counties with no town having a population exceeding 5,000 persons. **Final Passage.**

H.B. #511 - **Fireworks.** Provides that no person under 18 shall be licensed to sell, dispense or offer for sale fireworks. Does not exclude general retail sale of fireworks, but includes restrictions as to area of discharge. **Final Passage.**

### BILLS OF INTEREST

S.B. #191 - **S. D. Health Services Council.** Provides for a Council and requires a Certificate of Need prior to construction of new or expansion of present medical facilities (hospital) which would involve expending \$100,000 or more. **Bill Killed.**

H.B. #519 - **Drug Sales Tax.** Exempts all humanly consumed prescription drugs and medicines from retail sales tax. **Died in Committee.**

H.B. #545 - **Blood-Alcohol Test Law.** Amends law relating to the taking of blood for alcohol test, by allowing a registered nurse to draw blood. **Final Passage.**

H.B. #547 - **Drug Abuse Conference.** Appropriates \$5,000 for a statewide conference on drug abuse. **Killed in Senate.**

H.B. #580 - **Immunizations.** Requires that any pupil entering school for the first time be tested and free from a contagious form of tuberculosis and be immunized for poliomyelitis, small pox, diphtheria, measles and tetanus. **Final Passage.**

H.B. #702 - **Combined Departments.** Creates a Department of Health, Rehabilitation, Social Service and Welfare. **Deferred for a one year study.**

H.B. #864 - **Tax for Medical Education.** Creates a tax on all soft drinks, coffee and tea, its proceeds to be used for medical education in South Dakota. **Died in Committee.**

### OPPOSED BILLS

S.B. #14 - **V. D. Treatment.** Provides for examination and treatment of minors for V. D. without consent of parents. Provides for disclosure of information with consent of minor. **Bill Killed.**

S.B. #73 - **Blue Shield Enabling Law.** Amends law to require podiatrists' services be covered by Blue Shield and designates a podiatrist as a physician and surgeon. **Bill Killed.**

S.B. #74 - **Podiatry Law.** Amends law to allow a podiatrist to perform any and all services on the foot except for amputation. **Bill Killed.**

S.B. #242 - **Podiatry Law.** Amends law to allow a po-



diatrist to amputate the distal phalanx of a toe and to remove partial bones in the foot. **Passed Senate.** House Committee amended out objectionable language concerning scope of practice. Final bill raises Podiatry Board registration fees. **Final Passage.**

H.B. #818 - **Health Professions Loan Act.** Amends act to allow loans for optometry students. **Bill Killed.**

H.B. #863 - **Blue Shield Enabling Law.** Amends law to require podiatrists' services to be covered by Blue Shield. **Died in Committee.**

**MEDICAL SCHOOL APPROPRIATION** - was contained in the general Board of Regents budget. (\$857,400 - same as last year.)

Because of problems which were encountered during the legislative session relating to the Podiatry Practice Act, it was necessary to hold a special telephone conference between as many of the Commissioners as were available, on February 16, 1971. The following is the report of this conference.

Commissioners Foley, Gregg, Honke, Ryan and Wold and Mr. Bob Johnson participated, and Dr. R. Hayes responded later.

Proposed legislation, SB - 74, SB - 73, in the 1971 Senate of South Dakota to widen the field of activity of podiatrists and to, by legislation, force coverage of podiatry services under the Blue Shield Plan of South Dakota was tabled in the committee chaired by A. W. Spiry, M.D. of Mobridge on 2-8-71. The South Dakota Blue Shield had been represented by Mr. John Zimmer and the South Dakota Medical Association was represented by Mr. R. C. Erickson in the discussions which culminated in the tabling of these bills. Doctors Robert Hayes, R. Giebink and J. B. Gregg were in attendance at the Senate Committee meeting at which these bills were discussed. Shortly after the tabling action, the attorney representing the podiatrists as their lobbyist asked Mr. Erickson to reconsider and change the action of the SDSMA on these bills. At the recommendation of the chairman of the Commission on Legislation and Governmental Relations of the SDSMA, the podiatry lobbyist was informed that the SDSMA did not desire to reopen the matter, but would agree to a meeting of members of the Podiatry Association and the Commission on Legislation of the SDSMA to discuss the matter and make appropriate recommendations to the SDSMA. This offer of committee meeting was not accepted.

On 2-15-71 Senator Wollman introduced into the South Dakota Senate, by request, Senate Bill 242 to change the Podiatry Practice Act. Although similar, this bill was changed slightly as compared to the tabled bill, SB-74. On this same date HB-863, a bill very similar to SB-73 which had been killed in the Senate one week earlier, aimed at inclusion of podiatrists under Blue Shield of South Dakota, was introduced into the House by Representative Giebink.

Because of the way in which this matter had been handled by representatives of the Podiatry Association, plus the fact that the position of the SDSMA was compromised by the factors outlined above, it was felt that the Commission on Legislation should be polled regarding their thoughts concerning this matter. Prior to the telephone conference of the Commission, telephone and personal contact was made with as many orthopedists, general surgeons and others as possible over the state by the chairman of the Commission, so as to ascertain that action by the Commission represented the opinions of the physicians of this state. The Commission voted unanimously to forward the attached letter to the representatives of the SDSMA in Pierre to be presented to legislators who deliberated this matter.

**TO WHOM IT MAY CONCERN:**

The South Dakota State Medical Association opposes the changes in the Podiatry Practice Act, House Bill 242. We urge the Legislature of the State of South Dakota to table the legislation pertaining to this matter.

The Commission on Legislation and Govern-

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mental Relations of the South Dakota State Medical Association would be happy to meet with a committee of the South Dakota Podiatry Association to discuss this matter.

J. B. Gregg, M.D., Chairman  
Commission on Legislation and  
Governmental Relations

2. Licensure of health occupations and continuing competence of physicians.

A. It has been brought out in communications from the AMA that licensing of physicians' assistants has many drawbacks and problems and that the actions of such personnel can be regulated if state legislatures amend the state laws which restrict delegation of tasks to allied health personnel by physicians. At the present time, this matter does not need specific legislative alteration in South Dakota.

B. Relicensing or recertification of competence of physicians is a matter which is becoming increasingly important on a national level. Although no specific action is needed in South Dakota at the present time, this matter must be kept for further study by this Commission.

3. Basic Science Law and Medical Practice Act changes. See HB-747. A resolution is to be submitted by the Seventh District Society to the House of Delegates of the SDSMA at the 1971 annual meeting asking for a study to modernize the medical licensing laws in this state. No action by the Commission.

4. Information on medical malpractice problems from the California Medical Association and their attempts at solution by legislation were discussed. No definite action by the Commission. An editorial will appear in the Journal of the SDSMA relating to the subject of *res ipse loquitur* in one of the next two issues. This will be pertinent to this subject.

5. Communication regarding improved services for the School for the Blind resulting from the removal of the school from Gary to Aberdeen. It was reported "There is no question in my mind that the move to Aberdeen was of real benefit. I feel that the medical services and facilities available to us are sufficient to meet our present needs. /s/ George N. McCrea, Superintendent." It was the opinion of the Commission that it is heartening to note that medical services have been definitely improved by the move of one state operated institution to a community with better medical services. Dr. Gere reported that the services of a psychologist and medical services are available in Mitchell as well as in Yankton for individuals housed at the State Training School at Plankinton. The Commission feels that any plans to improve educational and other programs at Plankinton, or any attempt to remove this school from Plankinton, are beyond the scope of activity of this Commission and the SDSMA. If it will be to the betterment of trainees at Plankinton that change be made, this is to be encouraged.

6. Peer review corporation. Conferences on this subject are to be encouraged. American Association of Physicians and Surgeons, in Chicago, and by the Iowa State Medical Association in Des Moines, soon. It was M/S/C (Church/Hayes) that the SDSMA send two (2) delegates to each of these meetings and receive a report to the SDSMA from each delegate.

7. Legislative policy on abortion by the SDSMA. A communication was received from the President of the S. D. Ob-Gyn Society as follows:

I am going to be out of town for the coming meeting of the Commission on Legislation and Governmental Relations of the South Dakota State Medical Association, therefore I am writing you the results of an informal poll of both the specialist and generalist, who are doing the vast majority of obstetrics and gynecology. There were 55 questionnaires sent out. The questions were that if the South Dakota abortion law was overturned by being called unconstitutional, would you favor a) no further legislation or b) a new abortion law preferably coming with sponsorship of the South Dakota Ob-Gyn Society.

Eight physicians were in the category (a) and 26 were in category (b). There were innumerable types of suggestions as to the make-up of such law, but it seems clear to me that the physicians do wish some type of safeguards.

B. J. Williams, M.D.

It was the opinion of the Commission that the SDSMA should reaffirm its previous statement concerning this matter.

8. There may be some changes introduced into the next session of the S. D. legislature to amend the Hearing Aid Dealers Licensing Law, patterned after the California law.

9. Mr. R. Erickson reported that the actual expenses for lobbying by the SDSMA at the 1971 session of the S. D. legislature were \$1,600.

10. Members of the South Dakota Podiatry Association and their attorney, Ron Schmidt, appeared before the Commission to discuss possible changes in the Podiatry Law relating to the scope of their activity and the possibility of coverage of podiatrists under Blue Shield. This Commission has no authority to discuss coverage under Blue Shield for the podiatrists and they were referred to the Blue Shield Advisory Committee. It was M/S/C (Hayes/Gere) that the new Iowa law covering the practice of podiatry be obtained, that a copy of this law be made available to each member of the Commission, that it be studied by the Commissioners and the SDSMA, and then be again discussed with the podiatrists at the September 1971 meeting of the Commission.

11. It was announced to the Commission that the physicians who sit as members of the South Dakota legislature were invited to attend this meeting of this Commission and in the future will be notified in advance of and invited to participate in meetings of this Commission. They will be encouraged to present their views regarding legislative matters with emphasis on those pertaining to health problems and discuss subjects pertaining to health care which they envision may appear on the legislative slate at the coming sessions. Whenever possible the Commission and the SDSMA will appreciate very much the receipt of information relating to or a copy of proposed legislation regarding health care prior to the insertion of such legislation into the legislative hopper, so that policy arrangements can be formulated by the Commission and the SDSMA.

The next meeting of the Commission will be held in September 1971 at a date to be announced.

Respectfully submitted,  
J. B. Gregg, M.D., Chairman  
R. G. Gere, M.D.  
Thomas Bunker, M.D.  
C. E. Tesar, M.D.  
H. L. Frost, M.D.  
R. W. Honke, M.D.  
J. E. Ryan, M.D.  
Bill Church, M.D.  
R. J. Foley, M.D.  
G. R. Bartron, M.D.  
Robert Hayes, M.D.  
Howard Wold, M.D.  
Clark Gunderson, student  
representative

*The reference committee reviewed the report of the Commission on Legislation and Governmental Relations and recommends the acceptance of this report.*

#### REPORT OF THE COMMISSION ON INTERNAL AFFAIRS

The Commission on Internal Affairs met on August 29 and March 27, 1971.

The following members of the medical profession in South Dakota have died since the last annual meeting:

N. E. Wessman, M.D., Sioux Falls  
died February, 1971.  
J. C. Smiley, M.D., Deadwood  
died November, 1970.  
F. E. Manning, M.D., Custer  
died November, 1970.

(Continued on Page 40)



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(Continued from Page 34)

Charles Combe, M.D., Vermillion

died November, 1970.

S. A. Keller, M.D., formerly of Sioux Falls

died June, 1970.

W. E. Morse, M.D., died June, 1970-

The Health Careers Loan Fund began operating in September, 1970. A brochure was prepared and mailed to schools throughout the state. Since that time ten loans in the amount of \$4,550 have been made from the former Benevolent Fund assets. Interest in this loan fund has been very encouraging and it is hoped this fund will assist many students in the allied professions. The report on the financial condition of this fund is as follows:

Balance in Bank March 5, 1970 .....\$16,302.34

**Income**

Interest .....\$ 992.87

Loans Repaid ..... 891.00

Total Income .....\$1,883.87 1,883.87

**Expenditures**

Health Career Loans (10) .....\$4,550.00 4,550.00

\$13,636.21

Balance in Bank March 10, 1971 .....\$13,636.21

Assets of this Fund are as follows:

Cash in Bank .....\$13,636.21

Loans (19) ..... 8,109.00

\$21,745.21

The Commission recommended that the per diem allowance for physician travel outside the state be increased to \$40 per day. This recommendation was accepted by the Council and has been implemented this past year.

Respectfully submitted,

B. J. Begley, M.D., Chairman

E. A. Pasek, M.D.

C. R. Stoltz, M.D.

Alfred Shousha, M.D.

R. R. Giebink, M.D.

B. T. Lenz, M.D.

James Shaeffer, M.D.

E. A. Rudolph, M.D.

Saul Friefeld, M.D.

Bruce Allen, M.D.

Charles S. Roberts, M.D.

David Seaman, M.D.

David Rothenberger, student  
representative

The reference committee reviewed the report of the Commission on Internal Affairs and recommended the acceptance of this report.

**SOUTH DAKOTA STATE MEDICAL  
ASSOCIATION**

**PROPOSED BUDGET 1971-1972**

**INCOME**

Item	Budgeted 1970-71	Proposed 1971-72
State Dues .....	\$59,000.00	\$60,000.00
Annual Meeting .....	7,500.00	7,500.00
Refunds & Misc. ....	1,000.00	1,000.00
Interest .....	500.00	100.00
Car Reimbursement .....	1,400.00	1,400.00
Income Administrative .....	600.00	1,140.00
	\$70,000.00	\$71,140.00

**EXPENSES**

Item	Budgeted 1970-71	Proposed 1971-72
Salary, Executive .....	\$ 7,200.00	\$ 8,400.00
Salary, Other .....	15,500.00	16,500.00
Social Security .....	1,000.00	1,100.00
Legal & Audit .....	3,500.00	3,500.00
Telephone & Telegraph .....	2,000.00	2,000.00
Office Supplies .....	2,500.00	2,500.00
Dues & Subscriptions .....	800.00	900.00
Physician Travel .....	4,000.00	3,500.00
Annual Meeting .....	8,000.00	8,000.00
Public Relations .....	5,000.00	5,000.00
Rent .....	3,000.00	3,000.00

Miscellaneous .....	100.00	100.00
Postage .....	2,500.00	2,500.00
Legislative Expense .....	2,000.00	1,800.00
Medical School End. ....	200.00	200.00
Car Expense .....	2,500.00	2,500.00
Clinical Pathology .....	200.00	200.00
Staff Travel .....	4,500.00	5,000.00
Insurance .....	100.00	100.00
Employment Tax .....	100.00	50.00
Employee Relations .....	2,000.00	2,200.00
Taxes .....	200.00	200.00
Auxiliary Newsletter .....	700.00	700.00

\$67,600.00 \$69,950.00

Reserve ..... 2,400.00 1,190.00

\$70,000.00 \$71,140.00

**SOUTH DAKOTA JOURNAL OF MEDICINE  
INCOME**

Item	Budgeted 1970-71	Proposed 1971-72
Advertising .....	\$23,800.00	\$20,000.00
Subscriptions .....	400.00	400.00
Miscellaneous .....	600.00	600.00
Refunds .....	800.00	800.00
	\$25,600.00	\$21,800.00

**EXPENSES**

Item	Budgeted 1970-71	Proposed 1971-72
Salary, Editor .....	\$ 720.00	\$ 720.00
Salary, Staff .....	3,900.00	3,900.00
Legal & Audit .....	100.00	100.00
Rent .....	600.00	600.00
Telephone & Telegraph .....	300.00	300.00
Social Security .....	100.00	100.00
Office Supplies .....	18,720.00	15,280.00
Postage .....	900.00	800.00
Employee Relations .....	60.00	
	\$25,600.00	\$21,800.00

**BUILDING FUND**

**INCOME**

Item	Budgeted 1970-71	Proposed 1971-72
Blue Shield Rent .....	\$28,800.00	\$38,400.00
Association Rent .....	3,000.00	3,000.00
Journal Rent .....	600.00	600.00
Board of Exam. Rent .....	600.00	600.00
Miscellaneous Income .....		
Building Loan .....		
	\$33,000.00	\$42,600.00

**EXPENSES**

Item	Budgeted 1970-71	Proposed 1971-72
Building Addition .....	\$	\$
Janitor, repair & improvements .....	7,000.00	9,000.00
Utilities .....	5,000.00	6,000.00
Interest .....	5,000.00	6,000.00
Repayment of Loans .....	8,000.00	11,000.00
Legal & Audit .....	1,000.00	800.00
Taxes & Insurance .....	5,000.00	6,000.00
	\$31,000.00	\$38,800.00
Reserve .....	2,000.00	3,800.00
	\$33,000.00	\$42,600.00

The reference committee reviewed the proposed budget and recommended that it be accepted as presented.

**REPORT OF THE COMMISSION ON  
SCIENTIFIC MEDICINE**

The Commission met twice during the past year; on August 29, 1970, and March 27, 1971. Both meetings were held at the executive office in Sioux Falls.

The Commission determined that the three day format for the annual meeting which was developed for the 1970 meeting should be continued in 1971.

The South Dakota State Medical Association was



represented by James Larson, M.D. at the Conference on Continuing Medical Education which was held in Chicago, October, 1970. At this conference it was stressed that State Associations will have to offer some sort of continuing education for physicians in the future. Closed circuit TV, medical school traveling seminars and workshops are possible ways of providing continuing education. The Commission will continue to study the subject and additional planning and recommendations will be made at a later date.

The Commission met with John Lowe, M.D., of the State Health Department and discussed the TB program in South Dakota. The Commission is reviewing the 1968 statement of policy concerning TB treatment to bring it up to date and in accord with suggested changes by the Department of Health. This revised statement will be provided to each doctor in the state when it is completed.

The Commission reviewed the request of Dr. Robert Hayes to name a Rabies Advisory Committee composed of South Dakota doctors to evaluate the use of rabies vaccine in suspected cases. The Commission felt that the Communicable Disease Center in Atlanta, Georgia, should be contacted for assistance in these cases, rather than using a local Advisory Committee.

Dr. Hayes spoke to the Commission on a Pulmonary Screening Program being planned by the South Dakota TB and Respiratory Disease Association and the State Department of Health. He requested the endorsement of the State Association. The Commission felt the Program would be of value and recommended that the Program be worked out in more detail.

Respectfully submitted,  
James C. Larson, M.D., Chairman  
H. Phil Gross, M.D.  
C. C. Lardinois, M.D.  
E. H. Heinrichs, M.D.  
N. B. Saoi, M.D.  
R. B. Leander, M.D.  
R. J. Zakahi, M.D.  
John Tidd, M.D.  
Noel deDianous, M.D.  
Karl Wegner, M.D.  
Jose Michieli, M.D.  
Richard Jongewaard, student representative

*The reference committee reviewed the report of the Commission on Scientific Medicine and recommended that the report be accepted as amended by the Council.*

#### REPORT OF THE EXECUTIVE COMMITTEE

The Executive Committee of the State Medical Association did not meet during the past year. However, two conference telephone calls were held; one concerning medical education in South Dakota and one concerning the Title 19 program. The Executive Committee called a special meeting of the Council in December to discuss the future of medical education in South Dakota, and the minutes of that meeting have been published in the Journal.

Respectfully submitted,  
J. A. Muggly, M.D., Chairman,  
Executive Committee  
G. Robert Bartron, M.D.  
W. R. Taylor, M.D.  
A. P. Reding, M.D.  
J. T. Elston, M.D.  
Harvard Lewis, M.D.

*The reference committee considered the report of the Executive Committee and recommends the acceptance of this report.*

#### REPORT OF THE GRIEVANCE COMMITTEE

There were four cases referred to the Grievance Committee for evaluation and action during 1970-71.

The Committee had one official meeting on 12-13-70, at which two of the cases were studied and resolved. One case was resolved by correspondence and reports.

One case remains to be further studied. The com-

mittee does not feel that there is any basis for grievance, but that further open-minded communication will also resolve this complaint.

Respectfully submitted,  
Paul Hohm, M.D., Chairman,  
Grievance Committee  
John T. Elston, M.D.  
James P. Steele, M.D.  
R. H. Quinn, M.D.  
John J. Stransky, M.D.

*The reference committee considered the report of the Grievance Committee and recommends the acceptance of this report.*

#### REPORT OF THE STATE UTILIZATION AND INSURANCE REVIEW COMMITTEE

During the past year, the State Utilization and Insurance Review Committee has reviewed 37 cases, and has had two meetings to consider 14 problem cases, and interview physicians who felt that our decisions were not equitable. In general, the committee's work load has decreased during the past year because most local and regional Utilization Committees have functioned well. Also, the majority of physicians now bill by Relative Value code numbers. Three major problem areas still exist. First, is over-utilization of hospital beds; second, is the failure of the physician to adequately document the reasons for charges above those specified by the South Dakota State Medical Association Relative Value Guide; and third, a few physicians do not understand that concurrent care of a patient by two or more physicians is not allowed.

Over-utilization or hospitalization beyond a reasonable time for a given illness is a very difficult thing for a committee, far removed from the local scene, to determine. It is especially difficult when only fragmentary information is furnished to document the apparent over-utilization. When the patient obviously needs only convalescent care but cannot leave the hospital because there is no place for him to go, and relatives will not accept the responsibility, the physician should bill as if the patient were in a convalescent unit or a nursing home. Daily visit charges in this instance are not acceptable. It is in this area that we rely heavily upon the opinion of the local committee, and we wish to express our appreciation to the local and district utilization and review committees for their hard work and valuable assistance.

The code numbers in the Relative Value Guide should cover the vast majority of charges. While some cases in a given category present challenging and difficult problems, others, of course, are relatively easy. It is the opinion of the committee that this averages out to a fair compensation to the physician. When the management of a given case would seem to warrant charges above those usually allowed, adequate written documentation of the reasons for a greater charge should be submitted with the bill. However, complications following a surgical procedure must be considered postoperative care and no additional charges should be made.

Concurrent care of the patient by two or more physicians has been our knottiest problem. Daily charges by more than one physician are not accepted. A daily charge after an operation is not accepted even by the referring physician. It is not the intent of this ruling to deprive the patient of necessary care. The way that a serious complication should be managed is for the second physician to bill as a consultant, as necessary, and the record should substantiate the necessity of a consultation. However, this does not permit a daily charge unless a totally different disease supervenes and demands the care of another specialty. For example, a postoperative cholecystectomy patient who develops a myocardial infarction. However, the great majority of postoperative patients should remain the responsibility of the surgeon, and additional necessary care should be handled by the route of consultation.

Finally, while some of our cases are due to simple improper billing, the majority of our committee's



problem cases are due to inadequate or almost non-existent written documentation of the necessity of a prolonged hospitalization, or the record does not substantiate the necessity of charges other than those allowable under the Relative Value Guide. The great majority of South Dakota physicians have been most cooperative in following the Medicare guidelines, and the committee wishes to thank them for making our work less arduous.

Respectfully submitted,  
C. B. McVay, M.D., Chairman,  
State Utilization and  
Insurance Review Committee  
H. Russell Brown, M.D.  
Roscoe Dean, M.D.  
Harvard Lewis, M.D.  
E. S. Palmerton, M.D.  
W. O. Rossing, M.D.

*The reference committee considered the report of the State Utilization and Insurance Review Committee. The reference committee requests the State Utilization and Insurance Review Committee to redefine "concurrent care" to clarify the meaning of the term and provide the definition to the physicians of South Dakota. The reference committee recommends the acceptance of this report.*

#### ANNUAL MEETING

##### Minutes of

South Dakota Medical Service, Inc.

Howard Johnson's Motor Lodge, Rapid City, S. Dak.  
May 21, 1971, 1:30 p.m.

The meeting was called to order by B. F. King, M.D., President, at 1:30 o'clock, Friday, May 21, 1971, pursuant to notice duly given.

President King instructed the Secretary, Richard

C. Erickson, to call the roll. Members present for roll call were as follows:

J. A. Muggly, M.D.  
W. R. Taylor, M.D.  
J. T. Elston, M.D.  
John J. Stransky, M.D.  
G. E. Tracy, M.D.  
C. L. Swanson, M.D.  
Harvard Lewis, M.D.  
M. R. Cosand, M.D.  
Eldon Bell, M.D.  
G. H. Steele, M.D.  
R. Auskaps, M.D.  
Werner Klar, M.D.  
J. O. Mabee, M.D.  
G. Robert Bell, M.D.  
R. B. Leander, M.D.  
B. J. Begley, M.D.  
D. M. Lang, M.D.  
D. G. Ortmeier, M.D.  
R. J. Foley, M.D.  
Warren Golliher, M.D.  
H. Haugan, M.D.

G. Robert Bartron, M.D.  
A. P. Reding, M.D.  
Robert H. Quinn, M.D.  
David Seaman, M.D.  
Bruce Lushbough, M.D.  
Fred Leigh, M.D.  
E. T. Ruud, M.D.  
James Ryan, M.D.  
Thomas Bunker, M.D.  
James Rud, M.D.  
Donald Scheller, M.D.  
N. J. Sundet, M.D.  
R. Gere, M.D.  
Emil Hofer, M.D.  
J. H. Shaeffer, M.D.  
E. F. Daw, M.D.  
G. W. Knabe, M.D.  
P. K. Aspaas, M.D.  
M. Lyso, M.D.  
A. J. Barrett, M.D.  
L. C. Vogelgesang, M.D.

Also present were Ex-officio non-voting Medical Student Delegates:

Todd Biegler, Student Councilor  
David Nordin, Student Representative  
John Mast, Student Representative

A quorum was declared present.

President King presented the President's Report to the Corporate Body, reviewing activities of South Dakota Medical Service, Inc., hereafter called Blue Shield, for the previous year.

The President called for consideration of the Min-

Help  
Yourself  
at  
Western  
Bank

**4<sup>1</sup>/<sub>2</sub>%**  
Daily  
Interest  
Savings

Computed daily and  
compounded quarterly.  
Effective yield 4.64%.

**5%**  
Certificate  
of Deposit

\$100 or more for 90 days  
and over and automatically  
renewable. Compounded  
quarterly, effective  
yield 5.13%.

**5<sup>1</sup>/<sub>2</sub>%**  
Certificate  
of Deposit

\$100 or more for one year.  
Compounded quarterly,  
effective yield 5.65%.

**5<sup>3</sup>/<sub>4</sub>%**  
Certificate  
of Deposit

\$100 or more for two years.  
Compounded quarterly,  
effective yield 6.09%.



Sioux Falls, South Dakota  
West 12th Street at Western  
57101 ■ Telephone 336-1630



utes of the last meeting. Dr. Swanson moved that a reading of the same be dispensed with because such Minutes had previously been published and sent to each member. The motion was seconded by Dr. Mabee. Upon vote of the Corporate Body, reading of the Minutes of the last meeting was dispensed with.

President King called for consideration of that portion of the agenda entitled "Financial Reports." Mr. Erickson recapped the financial reports, including Blue Shield, CHAMPUS, Title XIX and Title XVIII. Dr. Swanson moved approval by the Corporate Body of the Financial Reports as provided and given to the Delegates. Such motion was seconded by Dr. Foley. Upon oral vote, the same was approved unanimously.

President King requested Dr. Sattler report to the Delegates the nominations for director vacancies as proposed by the Nominating Committee. The following names were presented:

- James Gormley, Rapid City
- G. L. Hill, Aberdeen
- H. R. Brown, M.D., Watertown, and
- C. J. McDonald, M.D., Sioux Falls

President King asked for nominations from the floor. Dr. Ortmeier nominated Dr. Paul K. Aspaas, Dell Rapids. Nomination was seconded by Dr. Lang. Dr. Bartron moved nominations cease, seconded by Dr. Daw, vote called and carried.

Dr. Begley moved that Mr. Gormley and Mr. Hill be elected to the Board of Directors for three (3) year terms. Motion was seconded by Dr. Lang. Upon oral vote, the same was approved unanimously.

A vote by ballot was taken to select a member from the nominees Dr. McDonald, Dr. Brown and Dr. Aspaas. President King appointed Dr. Bartron and Dr. Quinn to count the ballots. Dr. Aspaas received a majority vote and was elected to serve a three (3) year term on the Board of Directors. A tie vote resulted between Dr. Brown and Dr. McDonald. In subsequent ballots, Dr. Brown was elected to the Board of Directors for a three (3) year term.

The President called for consideration of any other Old Business. No other Old Business was presented for consideration.

President King called for consideration of that portion of the agenda entitled "New Business." Mr. Erickson discussed the cancellation of the Title XIX Contract. A general discussion followed and no further action was taken.

Dr. Taylor moved that the Corporate Body commend Dr. B. F. King for his three (3) years of service. Motion was seconded by Dr. Scheller, vote called and carried.

No other new business was presented to be considered.

President King stated he would entertain a motion for adjournment. Dr. Leander moved for adjournment, the motion was seconded by Dr. Scheller, and approved unanimously.

Richard C. Erickson  
Secretary-Treasurer

South Dakota Medical Service, Inc.  
**BALANCE SHEET**  
December 31, 1970

**ASSETS**

**Admitted Assets:**

Cash on Hand and in Bank	\$ 216,634.02
Accounts Receivable — Federal Program	8,993.25
Accounts Receivable — Northwestern Bell Program	3,126.33
Expense Reimbursement Receivables	45,850.30
Premiums Due	4,445.43
Investment Income Receivable	15,207.09
Savings Certificates:	
First National Bank, Brookings, S. D.	20,000.00
Citizens Bank, Clark, S. D.	20,000.00
Bank of Lemmon, Lemmon, S. D.	20,000.00

Citizens Bank, Mobridge, S. D.	20,000.00
Security Bank, Webster, S. D.	20,000.00
First National Bank, Sioux Falls, S. D.	20,000.00
Northwestern National Bank, Sioux Falls, S. D.	20,000.00
National Bank of S. D., Rapid City, S. D.	20,000.00
Commercial Trust and Savings, Mitchell, S. D.	20,000.00
Farmers & Merchants Bank, Huron, S. D.	20,000.00
Farmers & Merchants Bank, Aberdeen, S. D.	20,000.00
Western State Bank, Sioux Falls, S. D.	20,000.00
First State Bank, Armour, S. D.	20,000.00
Farmers & Merchants Bank, Watertown, S. D.	20,000.00
First Dakota National Bank, Yankton, S. D.	15,000.00
Valley State Bank, Yankton, S. D.	20,000.00
Ipswich State Bank, Ipswich, S. D.	15,000.00
First National Bank of Black Hills, Rapid City, S. D.	20,000.00
Dakota State Bank, Milbank, S. D.	20,000.00
American State Bank, Yankton, S. D.	20,000.00
Mitchell National Bank, Mitchell, S. D.	20,000.00
Custer County Bank, Custer, S. D.	20,000.00
Rushmore State Bank, Rapid City, S. D.	20,000.00
Lyman County Bank, Kennebec, S. D.	20,000.00
First National Bank, Pierre, S. D.	20,000.00
Pierre National Bank, Pierre, S. D.	20,000.00
Miners & Merchants Bank, Lead, S. D.	20,000.00
McCook County National Bank, Salem, S. D.	20,000.00
Parker State Bank, Parker, S. D.	20,000.00
Valley National Bank, Sioux Falls, S. D.	20,000.00
Farmers State Bank, Canton, S. D.	20,000.00

610,000.00

U. S. Government Treasury Notes	379,496.40
First Federal Savings & Loan, Watertown, S. D.	10,000.00
Home Federal Savings & Loan, Sioux Falls, S. D.	20,000.00
First Federal Savings & Loan, Huron, S. D.	10,000.00
Mortgage Loan — South Dakota Medical Association	108,997.93
Real Estate	33,040.00

**Total Ledger Assets** .....\$1,465,790.75

**LIABILITIES AND RESERVES**

**Liabilities:**

Accrued Premium Tax	\$ 9,579.57
Accounts Payable — Federal	14,500.00
Accounts Payable — N. W. Bell	2,815.00
Accounts Payable — Lutheran	2,499.53
Accrued Liabilities	45,335.57

**Total Liabilities** .....\$ 74,729.67  
**Unearned Income** .....101,466.96

**Reserves:**

Estimated Claims not reported	275,000.00
Equalization of Comprehensive 65 Program	90,000.00

**Total Reserves** .....\$ 365,000.00  
**Surplus — Unassigned** .....924,594.12

**Total Liabilities and Reserves** .....\$1,465,790.75



**STATEMENT OF INCOME AND EXPENSES**  
for the Year Ended December 31, 1970

**Receipts:**

Earned Income		
Blue Shield .....	\$1,339,605.15	
Federal Employees Program		
Basic .....	\$403,378.49	
Supplemental .....	79,419.14	482,797.63
Northwestern Bell Telephone .....	98,159.77	
Western Electric .....	7,288.91	
Lutheran .....	20,683.54	\$1,948,535.00
Interest Earned .....		58,864.14
		<u>\$2,007,399.14</u>

**Medical and Surgical Claim Expenses:**

Non-participating		
Physicians .....	\$ 450,893.64	
Participating Physicians .....	1,073,413.89	\$1,524,307.53

**Operating Expenses:**

Advertising .....	\$ 12,731.55
Board and Associations .....	9,201.60
Salaries .....	301,832.36
Employee Relations .....	27,323.99
Insurance .....	721.41
Travel .....	27,242.39
Board Meeting Expense .....	12,794.01
Rent .....	31,245.00

Furniture & Equipment Depreciation .....	5,917.78
Equipment Rental .....	8,613.45
Printing & Stationery .....	20,270.03
Office Supplies .....	15,402.60
Books, Newspapers, etc. ....	702.16
Postage .....	20,034.29
Telephone .....	15,372.21
Wire System .....	281.76
Legal .....	14,774.94
Auditing Service .....	6,641.07
Actuarial .....	42.25
Insurance Expense (Taxes) .....	6,496.16
License & Fees .....	108.00
Social Security Tax Expense .....	12,580.47
Taxes (Other) .....	3,681.35
Personal Property Taxes .....	973.45
Real Estate Taxes .....	476.13
Service Agency .....	234,880.45
Payment to Blue Cross .....	133,350.75
Miscellaneous Expense .....	2,821.69
	<u>\$ 926,513.30</u>
Less Reimbursements .....	613,625.96

<b>Net Operating Expense</b> .....	\$ 312,887.34
Total Expenses & Claims Payments .....	<u>1,837,194.87</u>
<b>Net Gain to Surplus — Unassigned</b> .....	\$ 170,204.27

**MEDICAL ASSISTANCE PROGRAM**

**TITLE XIX**

	December		Year to Date	
	1970	1969	1970	1969
<b>INCOME</b>				
A. Claims Income .....	\$ 97,252.94	\$ 67,535.60	\$1,016,028.95	\$1,017,715.51
B. Administration Income .....	8,498.46	7,087.11	101,173.14	112,158.73
Total Income .....	<u>\$105,751.40</u>	<u>\$ 74,622.71</u>	<u>\$1,117,202.09</u>	<u>\$1,129,874.24</u>
<b>EXPENSE</b>				
A. Claims Expense .....	\$ 96,189.34	\$ 67,113.74	\$1,034,978.34	\$1,009,701.53
B. Administration Expense .....	11,944.29	7,159.22	106,873.21	86,790.76
Total Expense .....	<u>\$108,133.63</u>	<u>\$ 74,272.96</u>	<u>\$1,141,851.55</u>	<u>\$1,096,492.29</u>
% of Admin. Expense to Claims Expense .....	12.4%	10.7%	10.3%	8.6%
<b>ADMINISTRATIVE EXPENSE</b>				
Salaries .....	\$ 3,506.66	\$ 3,728.00	\$ 43,492.37	\$ 44,899.03
Travel .....	181.06	93.91	2,456.73	1,417.39
Rent .....	520.00	433.00	5,456.11	5,196.00
Board, Bureau & Assn. ....	—0—	118.03	973.71	1,145.52
Legal .....	—0—	—0—	—0—	—0—
Furniture Depreciation .....	81.45	(90.05)	1,220.79	1,125.67
Equipment Rental .....	—0—	47.93	983.49	579.05
Printing & Stationery .....	—0—	10.18	1,015.73	1,357.00
Office Supplies .....	378.43	38.64	3,206.35	2,154.22
Books, Periodicals .....	8.28	—0—	41.02	58.79
Postage .....	596.45	136.10	2,606.26	2,139.65
Telephone .....	153.05	104.71	1,739.07	1,407.82
Wire System .....	—0—	—0—	—0—	—0—
Insurance .....	—0—	32.24	3.30	43.08
Employee Relations .....	813.13	660.11	3,178.21	3,269.43
Auditing .....	—0—	—0—	411.43	—0—
Service Agency .....	5,472.31	1,600.73	37,446.09	19,006.57
Social Security .....	167.26	176.02	1,829.61	2,127.07
Board Meeting .....	—0—	—0—	—0—	—0—
Miscellaneous .....	—0—	—0—	241.54	—0—
Other Taxes .....	66.21	69.67	571.37	841.97
<b>NET OPERATING EXPENSE</b> .....	<u>\$ 11,944.29</u>	<u>\$ 7,159.22</u>	<u>\$ 106,873.21</u>	<u>\$ 86,790.76</u>



# ARMY MEDICARE PROGRAM CHAMPUS

INCOME	December		Year to Date	
	1970	1969	1970	1969
A. Claims Income .....	\$ 13,298.98	\$ 11,247.85	\$228,654.51	\$150,826.86
B. Administration Income .....	—0—	560.00	18,611.15	15,151.52
Total Income .....	\$ 13,298.98	\$ 11,807.85	\$247,265.66	\$165,978.38
EXPENSE				
A. Claims Expense .....	\$ 7,692.59	\$ 11,230.75	\$219,465.98	\$147,867.41
B. Administration Expense .....	1,335.13	1,045.90	14,922.02	12,430.43
Total Expense .....	\$ 9,027.72	\$ 12,276.65	\$234,388.00	\$160,297.84
% of Admin. Expense to Claims Expense .....	17.4%	9.3%	6.8%	8.4%
ADMINISTRATIVE EXPENSE				
Salaries .....	\$ 736.13	\$ 610.29	\$ 8,667.86	\$ 7,477.00
Travel .....	28.68	7.32	348.14	193.69
Rent .....	100.00	92.00	1,122.51	1,104.00
Boards, Bureaus & Assn. ....	—0—	14.43	195.42	150.94
Legal .....	—0—	—0—	39.00	—0—
Furniture Depreciation .....	11.22	(18.24)	141.64	195.15
Equipment Rental .....	—0—	—0—	113.01	46.48
Printing & Stationery .....	—0—	.54	95.84	64.46
Office Supplies .....	30.44	6.43	535.16	532.65
Books, Periodicals .....	1.74	—0—	35.21	83.08
Postage .....	35.12	58.37	435.73	572.64
Telephone .....	67.42	8.47	612.32	173.19
Wire System .....	—0—	—0—	—0—	—0—
Insurance .....	—0—	8.16	.66	109.78
Employee Relations .....	194.66	144.24	649.58	585.96
Auditing .....	—0—	—0—	411.43	—0—
Service Agency .....	80.96	73.16	1,010.53	642.10
Social Security .....	34.93	29.18	365.80	357.75
Board Meeting .....	—0—	—0—	—0—	—0—
Miscellaneous .....	—0—	—0—	27.98	—0—
Other Taxes .....	13.83	11.55	114.20	141.56
NET OPERATING EXPENSE .....	\$1,335.13	\$1,045.90	\$14,922.02	\$12,430.43

## MEDICARE TITLE XVIII PART B

INCOME	December		Year to Date	
	1970	1969	1970	1969
A. Claims Income .....	\$362,000.00	\$342,221.46	\$4,148,000.00	\$3,930,221.46
B. Administration Income .....	32,000.00	83,778.54	478,352.20	446,778.54
Total Income .....	\$394,000.00	\$426,000.00	\$4,626,352.20	\$4,377,000.00
EXPENSE				
A. Claims Expense .....	\$359,591.96	\$353,119.59	\$4,100,474.45	\$3,939,825.89
B. Administration Expense .....	34,953.92	77,674.41	489,762.15	423,351.01
Total Expense .....	\$394,545.88	\$430,794.00	\$4,590,236.60	\$4,363,176.90
% of Admin. Expense to Claims Expense .....	9.7%	22.0%	11.9%	10.7%
ADMINISTRATIVE EXPENSE				
Salaries .....	\$ 14,762.90	\$ 13,842.81	\$ 175,334.77	\$ 151,379.30
Travel .....	706.36	574.48	12,459.35	12,154.56
Rent .....	1,850.00	1,567.00	19,640.85	18,804.00
Boards, Bureaus & Assn. ....	—0—	458.03	3,655.56	4,935.09
Legal .....	15.60	60.89	5,857.97	5,949.35
Furniture Depreciation .....	217.11	(183.94)	3,165.53	2,317.07
Equipment Rental .....	110.00	260.39	5,801.53	5,993.95
Printing .....	907.14	454.23	13,270.14	11,685.02
Office Supplies .....	611.96	353.56	8,386.68	7,176.61
Periodicals .....	30.62	—0—	188.35	194.32
Postage .....	967.03	901.95	12,335.20	12,174.81
Telephone .....	677.29	1,034.22	10,307.51	10,456.61
Wire System .....	—0—	—0—	—0—	—0—
Insurance .....	—0—	114.23	413.24	550.57
Employee Benefits .....	3,239.59	3,568.32	12,034.07	11,966.04
Auditing .....	—0—	—0—	411.43	—0—
Service Agency .....	10,168.33	54,039.47	192,816.54	161,123.98
Social Security .....	695.28	651.85	7,385.30	7,101.87
Board Meeting .....	—0—	—0—	3,356.30	—0—
Miscellaneous .....	—0—	—0—	626.28	—0—
Other Taxes .....	275.21	258.02	2,315.56	2,811.13
Title XIX Usage .....	(280.50)	(281.10)	(3,133.50)	(3,423.30)
NET OPERATING EXPENSE .....	\$ 34,953.92	\$ 77,674.41	\$ 489,762.15	\$ 423,351.01



# Annual Meeting Highlights

The Black Forest Inn was a most congenial host for the banquet.



The turnout was tremendous, and we all enjoyed ourselves.



Dick watched everyone's diet very closely.

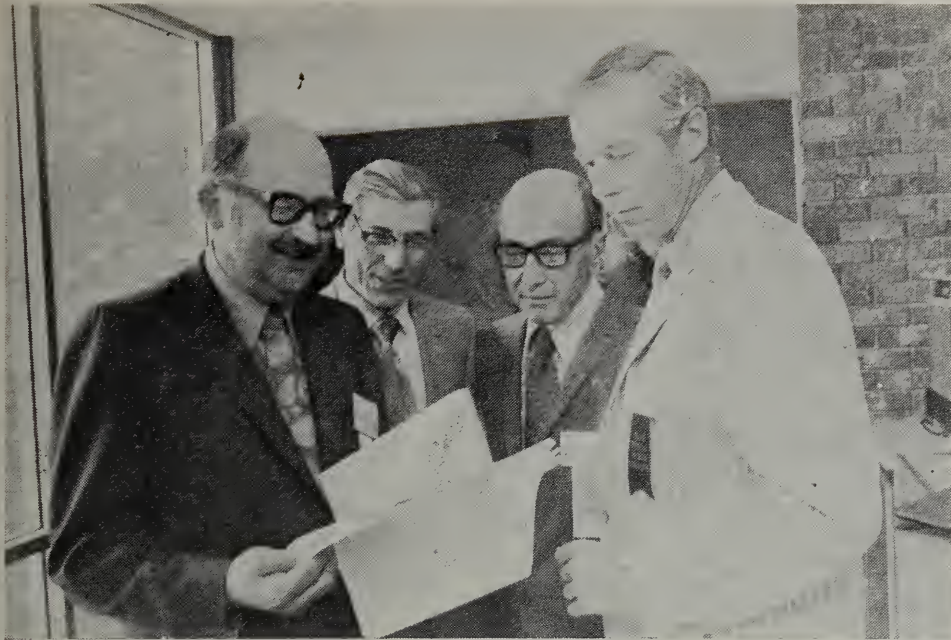


Dr. Reding accepts the Distinguished Service Award on behalf of Dr. Lietzke.



A moment to relax.

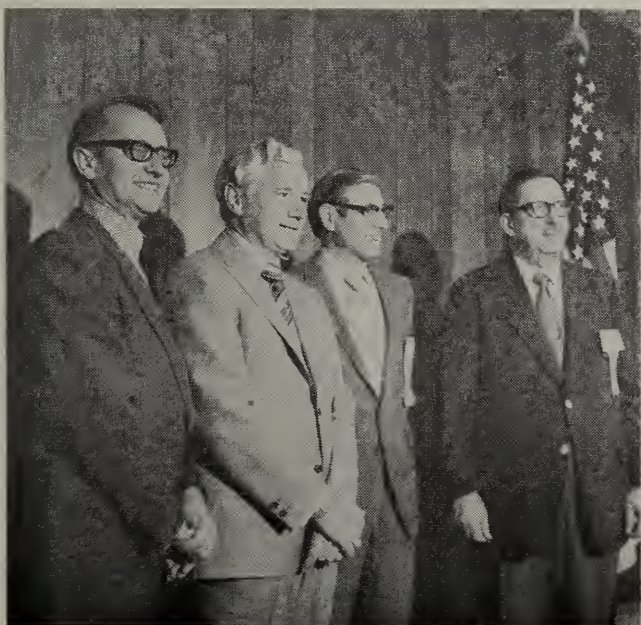




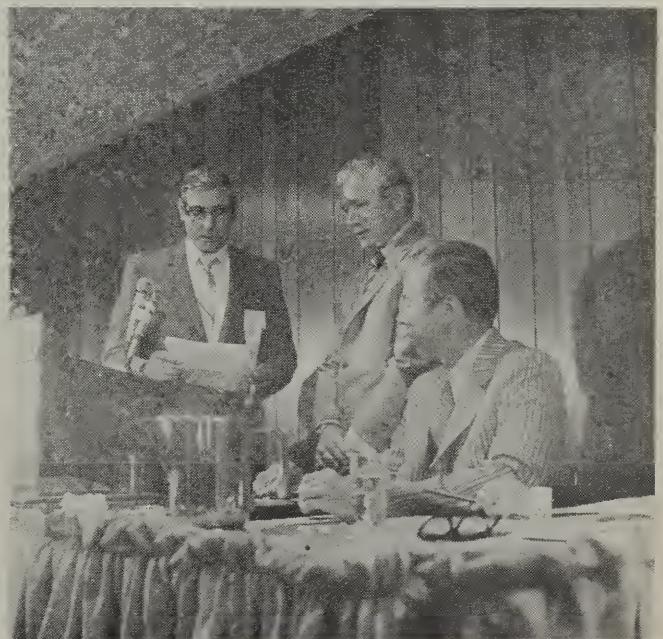
A busy but enjoyable  
schedule faces us all.



Dr. Bartron gets a  
standing send-off.



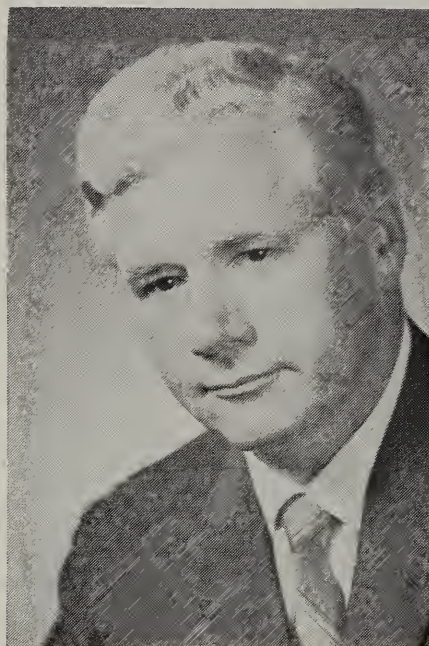
New Officers for 1971-72.



Dr. Bartron is sworn in.



# P R E S I D E N T ' S P A G E



I would like to urge your consideration of a field in which we are all involved and in which each of us has both a personal and professional interest: the Associations which represent us in our practice and before the rest of the world. Without them, whatever unity and cohesion we possess as a group would largely disappear; whatever force and effect we can exert as a profession would be inconsequential indeed.

I am referring, of course, to our State Medical Association and to the American Medical Association. Their importance to us and to the people we serve as physicians cannot be exaggerated.

Our state and national associations are not simply mouthpieces through which we speak as a profession nor are they only lobbyists to represent us where the laws are made. They are also research and educational arms of great impact and value to us as physicians and to our patients to the extent that they contribute to our greater skill and learning. They are watchdogs in representing our interests and public relations agencies in their mirroring of American medicine to the general public — this at a time, incidentally, when good public relations are more vital than ever.

More and more our profession is being required to explain and defend itself. More and more it is being required to contend with and oppose the penetration of government bureaucracy into the very heart of medical practice and economics. More and more, we are going to be required to speak out and speak up in our own behalf and our own defense.

Our state and national associations are our most effective weapons and our most convincing voices. They exist to serve us and to act in our behalf . . . and they deserve our enthusiastic support, not just when the time comes to pay our dues but whenever they call upon us to lend a hand.

In serving them we serve only ourselves.

G. Robert Bartron, M.D.  
President, South Dakota  
State Medical Association



*This is your*

# MEDICAL ASSOCIATION

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News Notes • Changes • Births • News

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The following physicians have been re-elected to active membership in the American Academy of General Practice: **Werner Klar, M.D.**, Flandreau; **John Stransky, M.D.** and **Stanley Allen, M.D.**, Watertown; **George Angelos, M.D.**, Hot Springs; **E. J. Moore, M.D.**, Vermillion; **D. M. Patterson, M.D.**, Redfield; **E. H. Peters, M.D.**, **Robert G. Olson, M.D.**, **L. G. Leraan, M.D.**, **George Barnett, M.D.** and **V. V. Volin, M.D.**, Sioux Falls; **B. R. Skogmo, M.D.** and **E. A. Schabauer, M.D.**, Mitchell; **D. J. Buchanan, M.D.** and **W. O. Hanson, M.D.**, Huron; **P. K. Aspaas, M.D.**, Dell Rapids; **I. I. Kaufman, M.D.** and **Dennis Epp, M.D.**, Freeman; **E. J. Batt, M.D.**, Sisseton; and **B. O. Lindbloom, M.D.**, Pierre. Re-election signifies these physicians have successfully completed 150 hours of accredited postgraduate medical study in the last three years.

\* \* \*

**J. R. Westaby, M.D.**, Madison, received a Certificate of Merit from Dakota State College for his long-time support of the college.

\* \* \*

President Richard L. Bowen announced the appointment of **Henry M. Parrish, M.D.** as Vice President for Health Affairs at the University of

South Dakota. Dr. Parrish's duties will be to coordinate the activities of the University of South Dakota School of Medicine, School of Nursing, the South Dakota Regional Medical Program and the Allied Health Programs.

\* \* \*

**Harold Lowe, M.D.**, formerly of Mobridge and Pullman, Washington, has returned to South Dakota and is associated with **Warren Reinoehl, M.D.** in Custer.

\* \* \*

The Rapid City Chapter of Zero Population Growth heard **Raymond Burnett, M.D.** speak on "Contraception and Abortion."

YOUR  
CONTRIBUTION  
TO THE  
SOUTH DAKOTA  
MEDICAL SCHOOL  
ENDOWMENT  
FUND  
IS NEEDED

The South Dakota Academy of General Practice and the South Dakota OB-GYN Society will again present the Black Hills Seminar at the Howard Johnson Motor Lodge in Rapid City, August 20, 21, 1971. Make plans to attend.

\* \* \*

**Robert F. Thompson, M.D.**, Yankton, has been appointed to serve as the governor of the South Dakota Chapter of the American College of Physicians and will be concerned primarily with organizing education activities.

\* \* \*

**John B. Slingsby, M.D.**, Rapid City, has been elected vice chairman of the South Dakota section of the American College of Obstetricians and Gynecologists and will be installed during the annual meeting of District VI of the College in Madison, Wisconsin, in September.

\* \* \*

The South Dakota Heart Association recently elected **D. Max Reade, M.D.**, Yankton, as president-elect and **T. H. Angelos, M.D.**, Canton, and **B. F. King, M.D.**, Aberdeen, as vice presidents of the association. Among those elected for three year terms to the board of directors were **Ralph Erdmann, M.D.**, Mitchell, and **N. J. Sundet, M.D.**, Kadoka.



# South Dakota State Medical Association Roster — 1971

## Membership by Districts

### ABERDEEN DISTRICT No. 1

Pres., Mary Sanders, M.D.  
Sec., Juan Chavier, M.D.

\*Alway, J. D. .... Arizona  
Avotins, R. .... Faulkton  
Bloemendaal, G. J. .... Ipswich  
Bormes, R. E. .... Aberdeen  
Bormes, W. A. .... Aberdeen  
\*Bunker, P. G. .... Aberdeen  
Bunker, T. G. .... Aberdeen  
Calene, J. L. .... Aberdeen  
Chang, Joe P. .... Aberdeen  
Chavier, Juan R. .... Aberdeen  
Collins, James .... Hoven  
Damm, W. P. .... Redfield  
deDianous, N., Jr. .... Aberdeen  
Driver, I. .... Aberdeen  
Eckrich, J. A. .... Aberdeen

Eckrich, J. A., Jr. .... Aberdeen  
Fahrenwald, M. .... Redfield  
Gerber, B. C. .... Aberdeen  
\*Graff, L. W. .... Britton  
Hovland, James I. .... Aberdeen  
Janusz, A. J. .... Aberdeen  
King, B. F. .... Aberdeen  
Kosse, Karl .... Aberdeen  
Leon, Paul .... Aberdeen  
†McCarthy, P. V. .... Aberdeen  
McGee, R. C. .... Aberdeen  
McIntosh, G. F. .... Eureka  
Mitra, Pranab .... Aberdeen  
Murdy, C. B. .... Aberdeen  
Norgello, V. .... Redfield

Patterson, D. .... Redfield  
Perry, E. J. .... Aberdeen  
Rodine, J. C. .... Aberdeen  
Rudolph, E. A. .... Aberdeen  
Sanders, M. E. .... Aberdeen  
Scheffel, A. .... Redfield  
Seaman, David .... Aberdeen  
Shousha, Albert .... Britton  
Steele, G. H. .... Aberdeen  
Sweeny, W. T. .... Aberdeen  
Taylor, Wm. R. .... Aberdeen  
Vogele, A. C. .... Aberdeen  
Vogele, C. L. .... Aberdeen  
Zvejnieks, K. .... Aberdeen

### WATERTOWN DISTRICT No. 2

Pres., Alden Heupel, M.D.  
Sec., T. J. Wrage, Jr., M.D.

Allen, S. .... Watertown  
Argabrite, J. W. .... Watertown  
Auskaps, R. .... Watertown  
Bartron, G. Robert .... Watertown  
Bartron, H. J., Jr. .... Watertown  
Brakss, V. .... Watertown  
Brevik, A. K. .... Watertown  
Brewster, C. B. .... Watertown  
Brown, H. Russell .... Watertown  
Clark, C. J. .... Watertown

Fedt, D. .... Watertown  
Gysin, M. W. .... Watertown  
Heinrichs, E. H. .... Watertown  
Heupel, Alden R. .... Watertown  
Hughes, H. D. .... Clear Lake  
\*Huppler, E. G. .... Watertown  
Larson, James C. .... Watertown  
Lillard, R. .... Watertown  
Michieli, Jose .... Watertown  
Nelson, P. S. .... Watertown

Piro, David F. .... Watertown  
Reul, T. .... Watertown  
Rousseau, David .... M.S.  
Rousseau, M. C. .... Watertown  
Rud, James .... Watertown  
Stoltz, C. R. .... Watertown  
Stransky, J. J. .... Watertown  
Tracy, G. E. .... Watertown  
Wrage, T. J., Jr. .... Watertown

### MADISON-BROOKINGS DISTRICT No. 3

Pres., H. J. Stensrud, M.D.  
Sec., C. M. Kershner, M.D.

Anderson, J. A. .... Madison  
Arbon, R. K. .... Idaho  
Belatti, R. .... Madison  
Francisco, E. C. .... Estelline  
Friefeld, S. .... Brookings  
Henry, Robert .... Brookings  
Hura, R. .... Howard  
Kershner, C. M. .... Brookings  
Klar, W. .... Flandreau  
Lampert, A. A. Jr. .... Madison

Lushbough, B. C. .... Brookings  
Mahli, D. S. .... Lake Preston  
McCabe, F. X. .... Brookings  
Muggly, J. A. .... Madison  
Otey, B. T. .... Flandreau  
Patt, W. H. .... Brookings  
Peeke, A. P. .... Volga  
Plowman, E. T. .... Brookings  
Reagan, J. L. .... Madison  
Roberts, C. S., Jr. .... Brookings

Scheller, D. L. .... Arlington  
Shaskey, R. E. .... Brookings  
\*Sherwood, C. E. .... Madison  
Stensrud, H. J. .... Madison  
Tank, M. .... Brookings  
Wait, C. .... Brookings  
Watson, E. S. .... Brookings  
\*Westaby, J. R. .... Madison  
\*Whitson, G. E. .... Madison  
Wold, H. R. .... Madison

### PIERRE DISTRICT No. 4

Pres., Dai H. Park, M.D.  
Sec., J. T. Cowan, M.D.

Askwig, L. C. .... Pierre  
Collins, E. H. .... Gettysburg  
Cowan, J. T. .... Pierre  
Fox, S. W. .... Pierre  
Ghatalia, B. K. .... Gettysburg  
Hayes, R. H. .... Pierre  
Horthy, A. .... Kennebec

Horthy, K. .... Kennebec  
Jahraus, R. C. .... Pierre  
Kumar, John S. .... Gettysburg  
Lindbloom, B. O. .... Pierre  
Lowe, J. A. .... Pierre  
Morrissey, M. M. .... Pierre  
Park, Dai H. .... Pierre

Spears, B. .... Pierre  
Sundet, N. J. .... Kadoka  
Swanson, C. L. .... Pierre  
Tieszen, A. J. .... Pierre  
\*Van Heuvelen, G. J. .... Pierre  
Werthman, H. E. .... Pierre  
Zakahi, R. J. .... Pierre

### HURON DISTRICT No. 5

Pres., James Monfore, M.D.  
Sec., Emil Hofer, M.D.

Adams, H. P. .... Huron  
Bell, G. Robert .... De Smet  
Buchanan, D. .... Huron  
Buchanan, R. A. .... Huron  
Dean, Roscoe .... Wess. Springs  
DeGeest, J. H. .... Miller  
Gryte, C. F. .... Huron  
\*Hagin, J. C. .... Miller

Hanson, Wm. O. .... Huron  
Hofer, E. A. .... Huron  
Hohm, P. .... Huron  
Hohm, T. .... Huron  
Huet, G. M. .... Huron  
Karlen, L. W. .... De Smet  
Lardinois, C. C. .... Huron

Leigh, F. D. .... Huron  
Lenz, B. T. .... Huron  
Monfore, James .... Miller  
Orgusaar, R. .... Florida  
Saxton, W. H. .... Huron  
Saylor, H. L., Jr. .... Huron  
Tschetter, P. S. .... Huron



# MITCHELL — DISTRICT No. 6

Pres., Harvard Lewis, M.D.  
Sec., Ralph R. Erdmann, M.D.

Berry, J. T. .... Mitchell  
Binder, C. F. .... Chamberlain  
Delaney, Robert .... Mitchell  
Delaney, W. A., Jr. .... Mitchell  
Erdmann, Ralph R. .... Mitchell  
Gere, R. G. .... Mitchell  
Gillis, F. D. .... Mitchell  
Hockett, Richard .... Mitchell  
Holland, L. W. .... Chamberlain  
Judge, J. O. .... Mitchell

Lewis, H. R. .... Mitchell  
Loos, C. M. .... Chamberlain  
\*Mabee, D. R. .... Mitchell  
Mabee, J. O. .... Mitchell  
Mabee, O. J. .... Mitchell  
McCann, J. P. .... Parkston  
Monson, C. D. .... Parkston  
Mueller, E. H. .... Tripp  
Murphy, John T. .... Mitchell

Porter, M. .... Parkston  
Schabauer, E. A. .... Mitchell  
Skogmo, B. R. .... Mitchell  
Tobin, F. J. .... Mitchell  
Tobin, L. W. .... Mitchell  
Vonburg, V. R. .... Mitchell  
Vose, J. L. .... Mitchell  
Weatherill, D. W. .... Mitchell  
Weber, R. A. .... Mitchell

# SIoux FALLS — DISTRICT No. 7

Pres., R. B. Leander, M.D.  
Sec., James Shaeffer, M.D.  
Treas., R. R. Giebink, M.D.

Alcorn, F. A. .... Sioux Falls  
Amundson, Loren .... Sioux Falls  
Anderson, C. .... Sioux Falls  
Anderson, T. R. .... Sioux Falls  
Anderson, W. R. .... Sioux Falls  
Angelos, T. .... Canton  
Arneson, W. A. .... Sioux Falls  
Aspaas, P. K. .... Dell Rapids  
Barlow, J. F. .... Sioux Falls  
Barnett, G. L. .... Sioux Falls  
Begley, B. J. .... Sioux Falls  
Billion, J. J. .... Sioux Falls  
Billion, T. J., Jr. .... Sioux Falls  
Breit, D. H. .... Sioux Falls  
Brewer, A. L. .... Sioux Falls  
Brzica, S. M. .... Sioux Falls  
Burns, E. A. .... Sioux Falls  
Burns, K. R. .... Sioux Falls  
\*Carney, M. .... Texas  
Chalmers, J. H. .... Sioux Falls  
Church, W. G. .... Sioux Falls  
\*Cottam, G. I. W. .... Sioux Falls  
Cutshall, V. H. .... Sioux Falls  
Cutshall, V. K. .... Sioux Falls  
Daggett, James .... Lennox  
Daw, E. F. .... Sioux Falls  
DeClark, R. P. .... Sioux Falls  
de Marco, Lynn .... Sioux Falls  
Devick, J. C. .... Colton  
Donahoe, J. W. .... Sioux Falls  
Donahoe, R. R. .... Sioux Falls  
\*Donahoe, W. E. .... Sioux Falls  
Dumstra, Fred .... Sioux Falls  
Eirinberg, I. .... Sioux Falls  
Elkjer, Neil .... Sioux Falls  
Ensberg, D. .... Sioux Falls  
Entwistle, F. R. .... Sioux Falls  
Epp, D. .... Freeman  
Ericksen, E. G. .... Sioux Falls  
Farkas, E. C. .... Sioux Falls  
Farrell, H. W. .... Sioux Falls  
Felker, James .... Sioux Falls  
Ferrell, M. R. .... Sioux Falls  
Fisk, R. G. .... Dell Rapids  
Friess, R. W. .... Sioux Falls  
Frost, D. M. .... Sioux Falls

Giebink, R. R. .... Sioux Falls  
\*Green, R. D. .... Sioux Falls  
Greenfield, D. .... Sioux Falls  
Greenfield, R. E. .... Sioux Falls  
Gregg, J. B. .... Sioux Falls  
Gross, H. Phil .... Sioux Falls  
\*Grove, M. S. .... Sioux Falls  
Hansen, H. F. .... Sioux Falls  
Hermanson, J. M. Valley Springs  
Hosen, R. S. .... Sioux Falls  
Hoskins, J. H. .... Sioux Falls  
Hoskins, John .... Sioux Falls  
Ihle, C. W. .... Sioux Falls  
Israel, M. .... Sioux Falls  
Janis, J. B. .... Sioux Falls  
Jaqua, R. A. .... Sioux Falls  
Johnson, D. L. .... Sioux Falls  
Jones, W. L. .... Sioux Falls  
Kaufman, I. I. .... Freeman  
Kemper, C. E. .... Viborg  
Kilbride, J. E. .... Sioux Falls  
King, L. M. .... Sioux Falls  
Kittelson, H. O. .... Sioux Falls  
Kohlmeyer, F. C. .... Sioux Falls  
Lakstigala, P. .... Sioux Falls  
Lang, Durward .... Sioux Falls  
Larson, C. S. .... Sioux Falls  
Larson, Leland J. .... Sioux Falls  
Leander, R. B. .... Sioux Falls  
Leraan, L. G. .... Sioux Falls  
Lie, Dagfinn .... Sioux Falls  
Manning, D. H. .... Sioux Falls  
Maresh, E. R. .... Sioux Falls  
Mattice, Lloyd .... Arkansas  
Moller, C. .... Nebraska  
Mutch, M. J. .... Sioux Falls  
McDonald, C. J. .... Sioux Falls  
McGreevy, E. J. .... Sioux Falls  
McGreevy, J. V. .... Sioux Falls  
McGreevy, P. S. .... Sioux Falls  
McHardy, B. R. .... Sioux Falls  
McManus, T. B. .... Sioux Falls  
Naughton, G. .... Sioux Falls  
Nelson, Earl .... Viborg  
\*Nelson, J. A. .... California  
Nelson, R. E. .... Sioux Falls

Nice, Richard .... Sioux Falls  
Ochsner, J. A. .... Sioux Falls  
Ogborn, R. J. .... Sioux Falls  
Ohrt, D. E. .... M.S.  
Olson, R. G. .... Sioux Falls  
Opheim, W. L. .... Sioux Falls  
Orr, R. T. .... Sioux Falls  
Ortmeier, Denny .... Sioux Falls  
\*Parke, L. L. .... Canton  
Pasek, E. A. .... Sioux Falls  
Peik, D. J. .... Sioux Falls  
Petereit, M. F. .... Sioux Falls  
Peters, E. H. .... Sioux Falls  
Peterson, Loren .... Sioux Falls  
Petres, A. .... Salem  
Pitt-Hart, Barry T. .... Sioux Falls  
Quinn, R. H. .... Sioux Falls  
\*Quinn, R. J. .... Sioux Falls  
Reagan, P. R. .... Sioux Falls  
Rossing, W. O. .... Sioux Falls  
Salmon, Don .... Sioux Falls  
Sanderson, E. W. .... Sioux Falls  
Schultz, R. D. .... Sioux Falls  
Sercl, W. .... Sioux Falls  
Shaeffer, J. H. .... Sioux Falls  
Shreves, H. .... Sioux Falls  
Soukup, Victor J. .... Sioux Falls  
Stahmann, F. .... Sioux Falls  
Steiner, P. K. .... Sioux Falls  
Stern, C. A. .... California  
Sweeney, L. J. .... Sioux Falls  
Tam, Guy .... Sioux Falls  
Tschetter, R. T. .... Sioux Falls  
Van Demark, R. E. .... Sioux Falls  
Villa, Jose .... Freeman  
Volin, V. V. .... Sioux Falls  
Wagner, Loyd .... Sioux Falls  
Waltner, Lonnie .... Bridgewater  
Walton, J. E. .... Sioux Falls  
Wegner, K. H. .... Sioux Falls  
Williams, B. J. .... Sioux Falls  
Williams, M. F. .... Minnesota  
Zandersons, V. .... Parker  
\*Zimmerman, Goldie E. .... Missoula, Montana

# YANKTON — DISTRICT No. 8

Pres., R. W. Honke, M.D.  
Treas., C. R. Herbrandson, M.D.  
Sec., K. A. Muckala, M.D.

Auld, Marian .... Yankton  
Auld, M. A. .... Yankton  
Behan, Lawrence .... Yankton  
Doubrava, S. M. .... Yankton  
English, E. J. .... Tyndall  
Fletcher, H. .... Vermillion  
Foley, R. J. .... Tyndall  
Grover, W. W. .... Bondeul, Wisc.  
\*Haas, F. W. .... Yankton  
Halverson, K. .... Yankton  
Herbrandson, C. R. .... Vermillion  
Herzog, B. F. .... Yankton  
\*Hill, J. F. .... Yankton  
Holzwarth, D. R. .... Yankton  
Honke, R. W. .... Wagner  
Hubner, R. F. .... Yankton

Jackson, J. K. .... Yankton  
Jameson, G. M. .... Yankton  
Johnson, C. F. .... Yankton  
Kalda, E. F. .... Platte  
Kleinsasser, G. .... Scotland  
Knabe, G. W. .... Vermillion  
Lyso, M. .... Yankton  
McVay, C. B. .... Yankton  
Moore, E. J. .... Vermillion  
Muckala, Kenneth .... Vermillion  
Porter, Richard I. .... Yankton  
Pratt, F. .... Yankton  
Price, Ronald .... Armour  
Radack, Morris .... Yankton  
Ranney, B. .... Yankton  
Reade, D. M. .... Yankton

Reaney, D. B. .... Yankton  
Reding, A. P. .... Marion  
Riesberg, E. .... Yankton  
Ryan, C. F. .... New York  
Sai, N. B. .... Yankton  
Sattler, T. H. .... Yankton  
Savage, L. .... Yankton  
Sebring, F. U. .... Vermillion  
Starage, W. F. .... Yankton  
Steele, J. P. .... Yankton  
Stephenson, D. R. .... Yankton  
Thompson, R. F. .... Yankton  
Thornton, R. R. .... Yankton  
Tidd, J. T. .... Yankton  
Turner, C. R. .... Vermillion  
Willcockson, T. H. .... Yankton



**BLACK HILLS  
DISTRICT No. 9**

Pres., George Angelos, M.D.  
Sec., J. A. Kovarik, M.D.

Ahrlin, H. L. .... Rapid City  
Allen, Bruce ..... Rapid City  
Anderson, A. B. .... Lead  
Angelos, G. .... Hot Springs  
Bailey, J. D. .... Rapid City  
Bareis, R. J. .... Rapid City  
Barrett, A. J. .... Rapid City  
Behrens, C. L. .... Rapid City  
Bergeron, Dale .... Rapid City  
Berkebile, Dale .... Rapid City  
Blake, Charles A. .... Rapid City  
Blunck, C. J. .... Rapid City  
Borgmeyer, H. J. .... Rapid City  
Boyce, R. A. .... Rapid City  
Bray, R. B. .... Rapid City  
Cameron, D. E. .... Rapid City  
Carson, L. E. .... Lead  
\*Chassell, J. L. .... Belle Fourche  
†Clark, B. S. .... Spearfish  
Cline, J. A. .... Rapid City  
Cornford, R. C. .... Rapid City  
\*Crane, H. L. .... Avon, Conn.  
Crowder, R. .... Rapid City  
Davidson, H. E. .... Ft. Meade  
Dulaney, C. H. .... Ft. Meade  
Dzintars, P. F. .... Rapid City  
Elston, J. T. .... Rapid City  
Feehan, J. J. .... Rapid City  
Finley, R. C. .... Rapid City

Freimark, L. G. .... Rapid City  
Fromm, H. E. .... Rapid City  
Frost, H. L. .... Rapid City  
Geib, W. A. .... Rapid City  
Gollither, W. N. .... Spearfish  
Gwinn, C. B. .... Rapid City  
Hamm, J. N. .... Sturgis  
Hare, H. J. .... Rapid City  
\*Hare, Lyle .... Spearfish  
Harris, R. H. .... Rapid City  
Haugan, H. O. .... Rapid City  
Hewitt, J. M. .... Rapid City  
Hofmann, A. R. .... Rapid City  
Jacobson, T. R. .... Hot Springs  
Jatoi, A. M. .... Deadwood  
Johnson, Robert K. .... Rapid City  
Jones, W. E. .... Sturgis  
Kegaries, D. L. .... Rapid City  
Kovarik, J. A. .... Rapid City  
Kovarik, R. A. .... Rapid City  
Kovarik, W. J. .... Rapid City  
Kunz, J. A. .... Rapid City  
Kwan, F. P. .... Rapid City  
Lampert, A. A. .... Rapid City  
Langenfeld, M. G. .... Spearfish  
Lydiatt, J. .... Hot Springs  
Mangulis, G. .... Philip  
Marousek, M. .... Belle Fourche  
Mattox, J. E. .... Deadwood

Mead, T. .... Spearfish  
Merryman, M. P. .... Rapid City  
Millea, R. P. .... Rapid City  
\*Mills, G. W. .... Washington  
Munson, H. B. .... Rapid City  
\*O'Toole, T. F. .... Rapid City  
Owen, G. S. .... Rapid City  
Palmerton, E. S. .... Rapid City  
\*Radusch, F. J. .... Rapid City  
Roper, C. E. .... Hot Springs  
Ruud, E. T. .... Rapid City  
\*Salladay, I. R. .... Pierre  
Saxton, A. J. .... Kansas  
Sejvar, J. P. .... St. Paul  
Semones, A., Jr. .... Lead  
Sherrill, S. F. .... Belle Fourche  
Shining, H. S. .... Rapid City  
Slingsby, J. B. .... Rapid City  
Stone, R. A. .... Rapid City  
Swisher, L. P. .... Kadoka  
Tesar, C. E. .... Rapid City  
Theissen, H. H. .... Rapid City  
Westaby, R. S., Jr. .... Rapid City  
Whitney, N. R. .... Rapid City  
Williams, F. R. .... Rapid City  
Wood, G. F. .... Rapid City  
Yackley, J. V. .... Rapid City  
Zanka, J. A. .... Rapid City

**ROSEBUD  
DISTRICT No. 10**

Pres., M. R. Cosand, M.D.

Cosand, M. R. .... Winner  
Nemer, R. G. .... Gregory

Stiehl, R. .... Winner

Studenberg, D. .... Gregory  
Sweet, E. P. .... Burke

**NORTHWEST  
DISTRICT No. 11**

Pres., Gus Torkildson, M.D.  
Sec., B. P. Nolan, M.D.

Johnson, C. A. .... Lemmon  
Linde, Leonard .... Mobridge  
Magtibay, M. .... Herreid

Nolan, B. P. .... Mobridge  
Ryan, J. E. .... Mobridge  
Spiry, A. W. .... Mobridge

Torkildson, G. .... McLaughlin  
Totten, F. C. .... Lemmon

**WHETSTONE VALLEY  
DISTRICT No. 12**

Pres., E. A. Johnson, M.D.  
Sec., V. Janavs, M.D.

Batt, E. J. .... Sisseton  
Bell, Eldon .... Webster  
†Brinkman, W. C. .... Sisseton

Gregory, D. A. .... Milbank  
Janavs, V. .... Milbank  
Johnson, E. A. .... Milbank  
Judge, W. T. .... Milbank

Kass, Joseph .... Rosholt  
Lovering, J. .... Sisseton  
Vogelgesang, L. C. .... Webster

M.S.—Indicates Military Service

\*—Indicates Honorary Membership  
†—Indicates Retired from Practice



# South Dakota State Medical Association Roster — 1971

## Membership — Alphabetical Listing

Adams, H. P. \_\_\_\_\_ Huron  
 Ahlin, H. L. \_\_\_\_\_ Rapid City  
 Alcorn, F. A. \_\_\_\_\_ Sioux Falls  
 Allen, Bruce \_\_\_\_\_ Rapid City  
 Allen, S. W. \_\_\_\_\_ Watertown  
 \*Alway, J. D. \_\_\_\_\_ Arizona  
 Amundson, Loren \_\_\_\_\_ Sioux Falls  
 Anderson, A. B. \_\_\_\_\_ Lead  
 Anderson, C. Wm. \_\_\_\_\_ Sioux Falls  
 Anderson, J. A. \_\_\_\_\_ Madison  
 Anderson, T. R. \_\_\_\_\_ Sioux Falls  
 Anderson, W. R. \_\_\_\_\_ Sioux Falls  
 Angelos, G. \_\_\_\_\_ Hot Springs  
 Angelos, T. \_\_\_\_\_ Canton  
 Arbon, R. K. \_\_\_\_\_ Idaho  
 Argabrite, J. W. \_\_\_\_\_ Watertown  
 Arneson, W. A. \_\_\_\_\_ Sioux Falls  
 Askwig, L. C. \_\_\_\_\_ Pierre  
 Aspaas, P. K. \_\_\_\_\_ Dell Rapids  
 Auld, Marian \_\_\_\_\_ Yankton  
 Auld, M. A. \_\_\_\_\_ Yankton  
 Auskaps, R. \_\_\_\_\_ Watertown  
 Avotins, R. \_\_\_\_\_ Faulkton  
 Bailey, J. D. \_\_\_\_\_ Rapid City  
 Bareis, R. J. \_\_\_\_\_ Rapid City  
 Barlow, J. F. \_\_\_\_\_ Sioux Falls  
 Barnett, G. L. \_\_\_\_\_ Sioux Falls  
 Barrett, A. J. \_\_\_\_\_ Rapid City  
 Bartron, G. R. \_\_\_\_\_ Watertown  
 Bartron, H. J., Jr. \_\_\_\_\_ Watertown  
 Batt, E. J. \_\_\_\_\_ Sisseton  
 Begley, B. J. \_\_\_\_\_ Sioux Falls  
 Behan, L. G. \_\_\_\_\_ Yankton  
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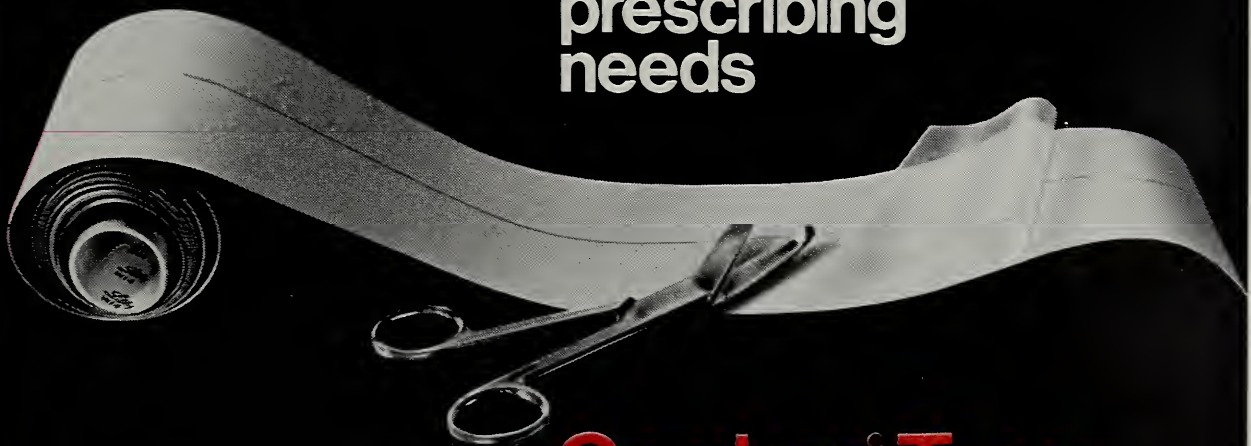
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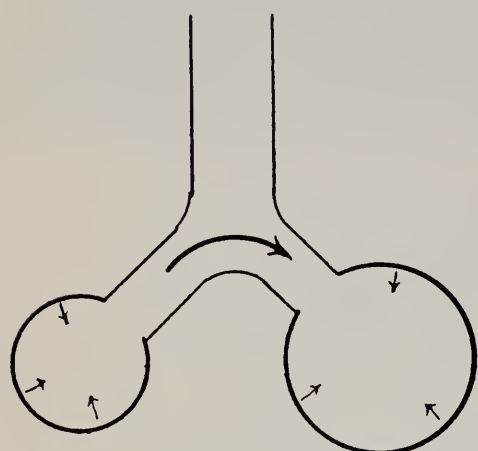
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pressure (or a negative intrapleural pressure) of 18.7 cm H<sub>2</sub>O to keep the alveolus from collapsing. The smaller alveolus would develop a pressure of 44.9 cm H<sub>2</sub>O across the interface.



$$r = 25\mu$$

$$r = 60\mu$$

$$P = \frac{2T}{r}$$

$$P = 44.9 \text{ cm H}_2\text{O}$$

$$P = 18.7 \text{ cm H}_2\text{O}$$

Figure 2

Diagram of two spherical alveoli connected to a branched airway. Surface tension causes the development of pressure across the walls of the alveoli which is related to the radius of the sphere. The smaller alveolus will develop a greater pressure than the large alveolus.

With such pressures, the smaller alveolus would empty into the larger one, and, as both pressures are greater than normal end expiratory pleural pressures, the alveoli would collapse during end expiration of each respiratory cycle. In addition, such a model would require a large opening pressure (large negative intrapleural pressure) at the beginning of inspiration to inflate the lungs.

A large opening inspiratory pressure is not required of normal lungs and end expiratory alveolar collapse does not occur. This is due to a remarkable film that lines the alveolar surface. The requirement of such a film is that it change its surface active properties as the surface area changes; it must reduce surface-tension as the area decreases (small alveoli) and increase surface-tension as the area increases (large alveoli), thus offsetting the La Place formulation that surface-tension effects are inversely proportional to the alveolar radii.

Pattle<sup>5</sup> was the first to demonstrate that the mammalian lung contains a potent surface-

active material which lowers the surface-tension at the alveolar-air interface. Clements<sup>6</sup> confirmed and extended Pattle's observation. In a series of experiments, these investigators showed that in surface films prepared with lung extract, the surface-tension fell rapidly to 5-10 dynes/cm on compression of the film; upon re-expansion of the film, surface-tension increased to a high value of between 40-50 dynes/cm. These properties of the surface film served to offset the forces developed by a fluid with a constant surface-tension and alveoli with variable radii, as demanded by the La Place formula.

Consider a model of three alveoli of radius 25  $\mu$ , 60  $\mu$ , and 150  $\mu$  connected to a branched airway. If a surface film of lung lining layer is present, the constant surface-tension of 55 dynes/cm, exhibited by plasma in air, would be replaced by a surface film possessing variable surface-tension depending on the alveolar area, i.e., the radius of the alveoli ( $A=4\pi r^2$ ). Compression of the surface film by reduction of the alveolar radius to 25  $\mu$  would decrease the surface-tension effect, in the example cited, to 5 dynes/cm. Expansion of the surface film by enlarging the alveolus to an alveolar radius of 60  $\mu$  and 150  $\mu$  would increase the surface-tension of the film to 12 dynes/cm and 30 dynes/cm respectively. By calculation, the interfacial pressure would be 4.1 cm H<sub>2</sub>O pressure for all three alveoli. This contributes to alveolar stability, lowers the opening pressure, and decreases the tendency to alveolar collapse.

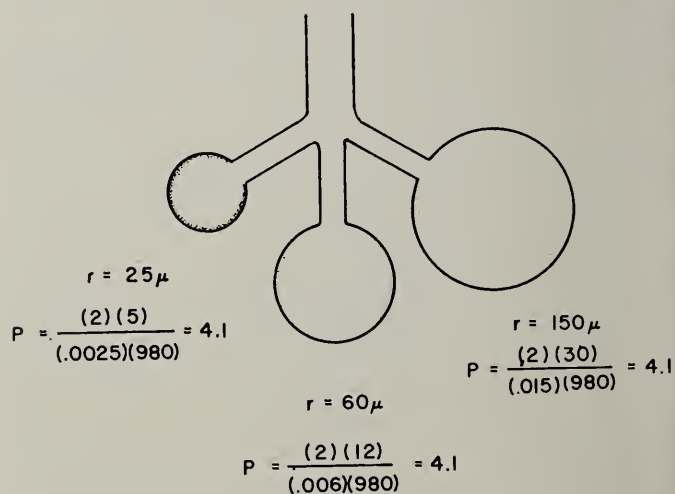


Figure 3

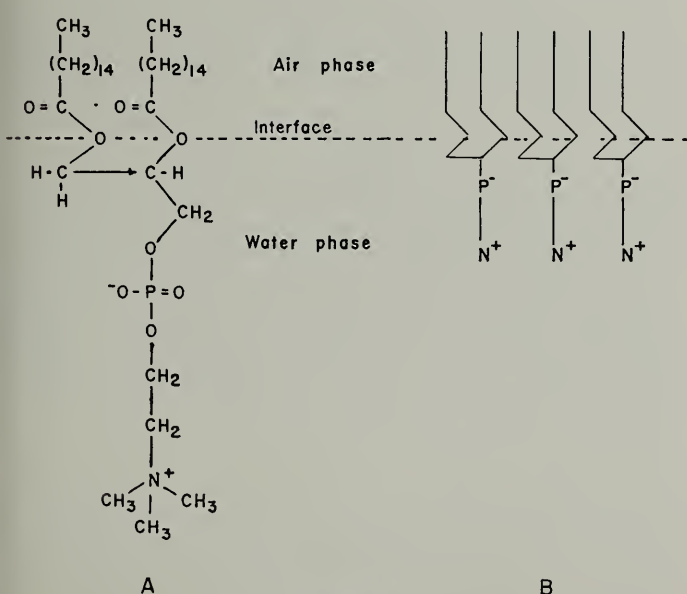
Diagram of three alveoli of unequal radii connected to a branched airway. Presence of a lining layer in the alveoli equalizes the pressure developed across the alveolar wall and promotes alveolar stability.

Precise characterization of the surface lining layer of the lung has been delayed due to diffi-



culties in obtaining pure material. Pulmonary foam produced by forced expansion and contraction of the lung after saline installation has high surface activity and presumably represents a somewhat contaminated sample of the alveolar lining. This foam has a high lipid content and phospholipid comprises about three-fourths of the total. Phosphatidyl choline (lecithin) has the greatest surface activity of the phospholipids and dipalmityl lecithin has been assigned the principal component of the surfactant of the lung<sup>7</sup>.

A stabilizing alveolar lining should produce low surface-tension in the compressed state when the alveolus is small and subject to collapse. To do this the film must be able to be compressed to a small area and maintain a stable layer in the compressed state. When the lecithin molecules are oriented as shown in Fig. 4, A, with the polar phosphocholine group in the water phase and the nonpolar fatty acid in the air phase, the attraction between the water molecules at the interface is reduced and surface-tension is decreased. The reduction of surface-tension depends on the degree of packing that can be achieved with the lecithin molecule, i.e., the more lecithin molecules at the interface,



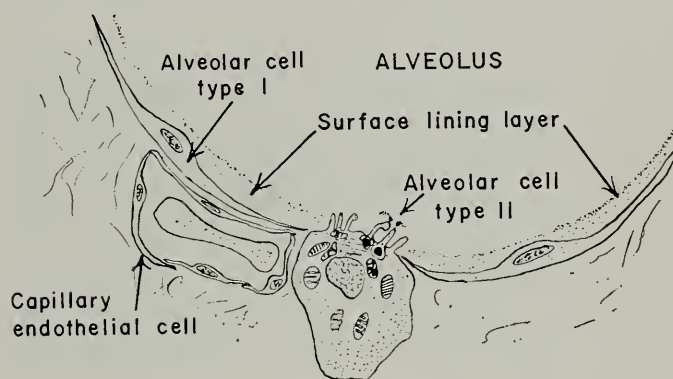
**Figure 4**

A. Orientation of dipalmityl phosphatidyl choline (lecithin) at the air-water interface. B. Lecithins with unsaturated fatty acids can be closely packed at the air-water interface and so reduce surface tension to low values.

the less water molecules to produce surface-tension. Dipalmityl lecithin can be tightly packed at high pressures without buckling (Fig. 4, B). Lecithins with unsaturated fatty acids in the side chain can not be packed tightly without buckling, hence such unsaturated lecithins are

not as surface active as saturated lecithins. At high pressures the palmitic acid esters of dipalmityl lecithin tend to crystallize but can be liquefied by cholesterol. Presumably this is the function of the cholesterol in the surface lining<sup>8</sup>.

The cellular origin of the lung surfactant has been subject to considerable study. Excluding the capillary endothelial cell, the lung is composed of three distinct cell types; pulmonary epithelial cells, large alveolar cells, and the alveolar phagocyte<sup>9</sup>, the latter not a true lining cell. The flattened, attenuated epithelial cells make up a continuous lining, the alveolar wall, and pass over the pulmonary capillaries and intercapillary tissue<sup>10</sup>. These cells are called type I (membranous pneumocytes, surface epithelial cells, small alveolar cells) and their extreme thinness implies that the rapid diffusion of gases occurs across their cytoplasm. A second type of cell, called type II (large alveolar cell, granular pneumocyte, great alveolar cell, giant alveolar cell), periodically interrupt the continuity of the type I cells of the alveolus,



**Figure 5**

Drawing of the type I and type II cells making up the alveolar wall. The type II cells are thought to secrete the alveolar lining layer.

but not the integrity of the alveolar wall itself. There are about six to seven of these type II cells in each alveolus. The granular appearance of the type II cell cytoplasm, the Golgi apparatus, multivesicular bodies and endoplasmic reticulum suggest a secretory function<sup>11</sup>. The cells contain peculiar lamellar inclusion bodies which are thought to be involved in the secretory process<sup>12</sup>. The close temporal relationship between the first appearance of normal surface-tension properties in the fetal lung and the appearance of the lamellar bodies in the cell is circumstantial evidence that the type II cell secretes the phospholipid lung surfactant<sup>13</sup>. More direct evidence has been obtained by the observation that there is preferential and rapid



accumulation of radiolabeled palmitic acid in large alveolar cells at sites adjacent to the cytoplasmic inclusions and this material is present as palmityl lecithin<sup>14</sup>. However, other work, equally significant, shows that the nonciliated cells of the terminal bronchiole (Clara cells) contain secretory granules, stain for phospholipid, and take up tritiated palmitic acid<sup>15</sup>. The latter investigator considers the Clara cells as producing the surfactant while the large alveolar cells absorb, or phagocytize, the phospholipid. It is possible that different cells produce different components of the total lining complex, although the majority of evidence favors the large alveolar cell (type II cell) as the primary site of surfactant synthesis. The lining layer is made up of two phases; a highly osmophilic lamellar superficial layer (lining layer of Pattle) and a less dense floccular base layer<sup>17</sup> (Pattle's lining complex). There is evidence that the lining complex itself may contain the enzymes necessary for methylation of phosphatidyl ethanolamine to phosphatidyl choline, the final step in the production of dipalmityl lecithin which transforms the lining complex into the lining layer.

After release from the cell, the surfactant material is adsorbed to cell surfaces to form a continuous lining<sup>16</sup>. This lining is not a simple monolayer of dipalmityl lecithin, but is thicker and contains protein, carbohydrates and other lipids. The dipalmityl lecithin of the lung surfactant is known to have a brief half-life, approximately 14 hours<sup>18</sup>, but the means of degradation and removal of the total complex is speculative.

Surfactant appears late in gestation; day 18 in the mouse (19 day gestation period) at the time type II cell inclusions appear<sup>19</sup>, day 20 in the rat (21 day gestation period), day 24 to 28 in the rabbit (30 day gestation period). In the lamb, surfactant appears at gestational day 121 (147 day gestation period), at a time when the two cell types (I and II) have become distinguishable (110 days) and when inclusion bodies have appeared in type II cells (113 days)<sup>20</sup>. In the human, surfactant may appear early in gestation (400 gm fetus)<sup>21</sup> but is not present in sufficient amounts to stabilize the alveoli before 1.0 to 1.2 kg of body weight (about 6 mo.) at the time when two cell types can be distinguished<sup>22</sup>.

In the normal animal at birth, a considerable volume of air remains in the lungs after the first breath, and with each succeeding cycle

this volume increases until a normal functional residual capacity is established. Work reported by Reynolds and Strang<sup>23</sup> on fetal lambs is instructive. Figure 6, redrawn from their data, shows pressure-volume curves obtained by inflating the lungs of a fetal lamb of 140 days gestation (surfactant present) and one of 122 days gestation (surfactant absent). In the lungs of the lamb of 140 days gestation (Fig. 6, dotted line, open circles), a pressure of 18-20 cm H<sub>2</sub>O is required before the lungs begin to inflate. Once the opening pressure is achieved, full inflation

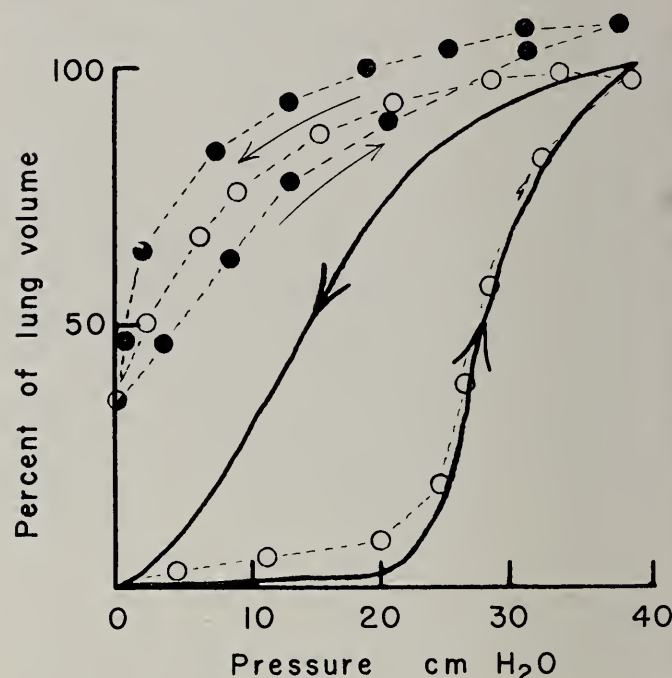


Figure 6

Pressure-volume curves of lungs from fetal lambs. Solid line is from lungs of lambs of 122 days gestation (surfactant absent). Shows collapse of alveoli at low pressures. Second inflation follows the first. Dotted line, open circles is the first inflation obtained from lungs of fetal lambs of 140 days gestation. Lungs retain a considerable volume of air at deflation. Dotted line, filled circles is the second breath which requires only a small opening pressure. (Redrawn from Reynolds and Strang, *Brit. Med. Bull.* 22:79, 1966.)

occurs with only a small increase of pressure. The deflation curve is separated from the inflation curve (hysteresis); the lungs retain significant volumes at pressures lower than the opening pressure. At zero pressure the lungs retain 25 percent or greater of the maximum lung volume. Surface-active lecithin which has been stored in the alveolar cells of the fetus is rapidly discharged into the alveolar space with the onset of breathing<sup>24</sup>. Little or no opening pressure is necessary for the second breath (Fig. 6, dotted line, solid circles) and the lung can be inflated to 75 percent of the maximum volume at pressures lower than the initial opening pressure. Figure 6, solid line shows the pressure-



volume curve obtained from lungs of a fetal lamb of 122 days gestation. The lining film presumably is not present at this stage of fetal development. The initial inflation curve is similar to that derived from the lungs of the 140 day gestational animal but during deflation the lungs retain less air at all pressures. At zero pressure, the lungs totally collapse. The second inflation, and all succeeding, will again require a large opening pressure, greatly increasing the work of breathing, and alveolar collapse will occur at each end expiration.

A variety of experimental procedures and pathological processes have been shown to induce changes in the alveolar cells and in the surface active properties of the lung surfactant. Bilateral cervical vagotomy in guinea pigs caused a reduction in the number of osmophilic (lamellar) inclusions in the alveolar cells<sup>25</sup>, and an increase in the surface-tension of lung extracts<sup>26</sup>. Breathing 15 percent CO<sub>2</sub> decreased the amount of demonstrable surfactant of the lung<sup>27</sup>. Exposure of animals to pure oxygen, while producing pulmonary edema and atelectasis<sup>28</sup>, has given conflicting results in regard to the absence or alteration of the lining layer<sup>29</sup>. Pentobarbital anesthesia in animals did not alter the lung surfactant, nor did diethylether, halothane and methoxyflurane in humans<sup>30</sup>. Cigarette smoke probably decreases lung surfactant in humans<sup>31</sup> but this has not been clearly established in the experimental animal<sup>32</sup>. Cortisone administration in acute bronchial asthma in children may cause loss of lung surfactant<sup>33</sup>. Large pneumothoraces inhibit the production of surfactant<sup>34</sup> probably as a result of poor circulation<sup>35</sup>, for pulmonary ligation gave similar results<sup>36</sup>. Surface activity is often decreased in specimens of lung tissue contiguous to areas of infection and this may be due to production of a surfactant antagonist, to altered pH, or to lack of oxygen<sup>37</sup>. Experiments with excised dog lungs suggest that alveolar cell metabolism continues for some time after excision and the substrate for production of the alveolar lining film is present and utilizable if oxygen is available<sup>38</sup>. Pulmonary edema, induced by rapid intravenous infusion of dextran, caused a decrease in surfactant with a tendency to atelectasis<sup>39</sup>. The edema fluid apparently carries with it certain anti-surfactant compounds which neutralize the surfactant activity of the lining layer, i.e., fibrinogen<sup>40</sup>. Overdistention of the lungs (dog lung, inflated to 30 cm H<sub>2</sub>O at a rate of 20/min for 23 hours) caused atelectasis associated with a high surface ten-

sion<sup>41</sup>. The effect was reversible. In contradistinction, limited expansion, as seen with hypoventilation, will reduce surface activity, increase surface-tension and predispose to alveolar collapse<sup>42</sup>. Speculation suggests that the surface-active water-insoluble alveolar lining may reenter the lining complex if the surface area is diminished for any length of time<sup>43</sup>. Periodic expansion of the lung is necessary for normal pulmonary physiology and this may be due, in part, to the requirement for maintaining the surfactant layer.

It is reasonable to conclude that factors which decrease lung surfactant or neutralize its surface activity will promote alveolar collapse (atelectasis) and impose the requirement of a large negative intrapleural pressure for lung inflation. Large negative intrapleural pressures will promote transudation of fluid from the blood into the alveoli (edema). It is tempting to speculate that lung pathology which has atelectasis and edema as a prominent characteristic is due to loss or alteration of the surface activity of the alveolar lining. Surfactant deficiency as an etiologic mechanism has been verified only in the respiratory distress syndrome of the newborn infant<sup>44</sup>. Pulmonary congestion and atelectasis after cardiopulmonary bypass is well recognized. Experimentally, cardiopulmonary bypass results in decrease of surfactant<sup>45</sup>. However, whether lack of surfactant is primary or secondary (ischemia due to microembolization of the pulmonary vascular bed, release of surfactant inhibitors) is not clear. Similarly, prolonged use of respirators (IPPB) combined with oxygen-rich gas mixtures<sup>46</sup>, pneumonia<sup>47</sup>, Asian influenza A<sup>48</sup>, radiation pneumonitis<sup>49</sup> include atelectasis and hyaline membrane as associated phenomena. Whether loss of surface activity is primary to the atelectasis, edema, and membrane formation can not be stated at present. Additional work is needed to clarify whether deficiency or decreased surface activity of the lung surfactant is primary to various lung diseases.

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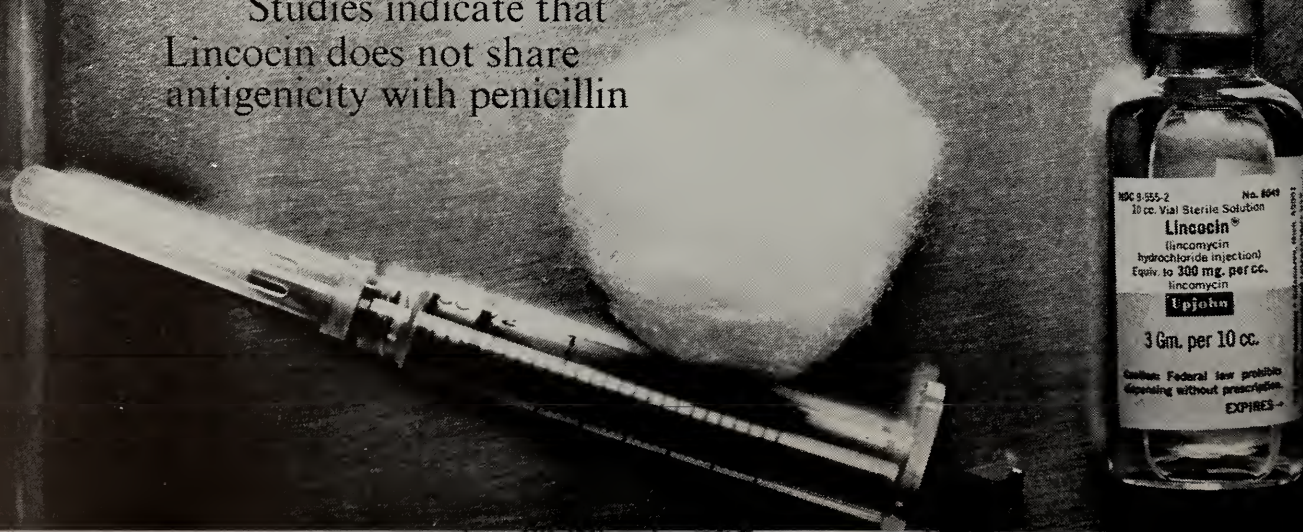


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# THE USE AND DISCLOSURE OF MEDICAL INFORMATION SUBMITTED FOR SOCIAL SECURITY DISABILITY PURPOSES

S. M. Brzica, M.D.\* and J. L. Lesler\*\*

## DISABILITY DETERMINATION UNIT

Persons claiming benefits under the Social Security disability provisions are aided by their district Social Security office in filing their applications. The Disability Determination Unit, an arm of the South Dakota Division of Vocational Rehabilitation, then develops the medical and other pertinent evidence that is needed for adjudication purposes.

The decision is made by a team consisting of a licensed physician and a disability evaluator who is a specialist in medical-vocational matters relating to the disability law. Medical evidence should include sufficient clinical findings, history and response to therapy so that the team can reach a decision about the nature and extent of functional impairment and whether, in the light of all the facts in the case, it disabled the claimant within the meaning of the law. In some cases it becomes necessary to purchase additional medical evidence.

Medical information obtained is also used by the Division of Vocational Rehabilitation in considering the claimant's eligibility for rehabilitation services. The number of these claimants referred to Vocational Rehabilitation averages approximately thirty per month.

Social Security Administration's Regulation Number 1 strictly limits the conditions under which and to whom information may be released. This regulation under Title II of the Social Security Act permits release of medical information to another physician or medical institution where the claimant is a patient. It also permits release to certain other government agencies such as vocational rehabilitation and the public welfare disability programs. Instructions prohibit the State Disability Determina-

tion Unit from permitting a claimant to view the medical evidence in his case. However, a claimant's authorized professional representative (e.g., attorney) is given access to medical findings for use in the prosecution of his client's disability claim filed under Social Security.

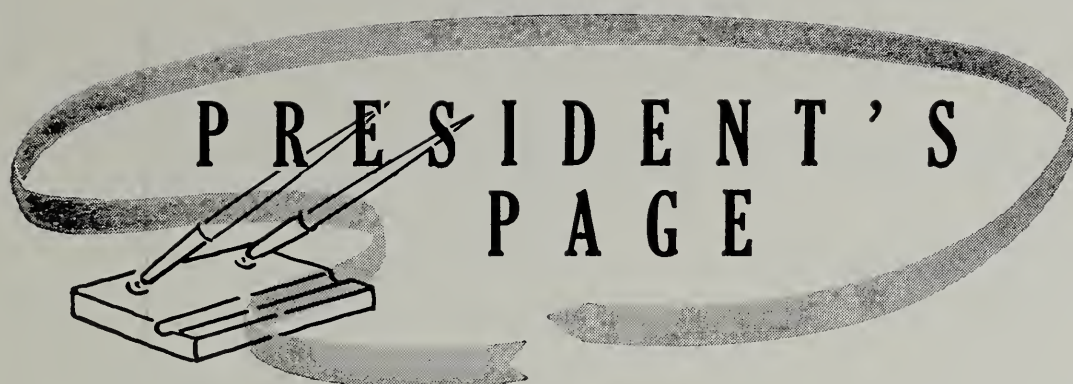
If a claimant is dissatisfied with the decision on his claim and he appeals it beyond the jurisdiction of the Disability Determination Unit at the Hearings or Appeals Council stage, he is then able to view all of the evidence upon which the decision is based. It is within the discretion of the Hearings Examiner to suggest that the claimant retain a representative at that level, thereby allowing the Hearing Examiner to release any potentially embarrassing information to the representative rather than directly to the claimant. The Hearing Examiner cannot insist that the claimant retain a representative. Therefore, to avoid the possibility, however slight, of the claimant coming into contact with a report that could disrupt the doctor-patient relationship, your report should include only the actual objective and factual history, clinical facts and an assessment of the ways in which the impairment(s) restricts activities. You should avoid statements reflecting on the patient's moral character or reputation or statements which draw conclusions as to whether the claimant is disabled under the Social Security Act.

Use of the report you prepare is restricted by the provisions of Federal Law and Regulation (42 U.S.C. 1306 and 20 CFR 401.1 et. seq.). Should any attempt be made by legal process to obtain a copy of the report or should you or your records be subpoenaed, notify the Disability Determination Unit, Telephone 336-8050, extension 646 in Sioux Falls, South Dakota at once. The service of a Federal attorney will be available if needed.

\* Chief Medical Officer

\*\* Unit Chief





We are at the traditional low point in South Dakota's political cycle . . . midway in the "off year" when only a few thoughts are on politics and next year's campaigns still seem a long way off.

But it won't be long until candidacies will be announced, political war chests replenished and one of the greatest shows of all . . . the American political campaign . . . will, so to speak, "come to town." Next year we'll be busy deciding whom to vote for, from President down. We'll get a lot of help in making up our minds.

To us as physicians this means SoDaPac . . . South Dakota Political Action Committee, the political arm of our South Dakota State Medical Association. It is the principal channel through which we can make our voice heard as a profession in the selection of candidates and the endorsement of both personalities and principles. SoDaPac has rightfully become the political voice of the South Dakota physician. It deserves your support.

Never has our profession been so involved in public affairs. Never have we been so incessantly called upon to defend ourselves, to propose solutions to problems which involve us, and to fend off unfair criticism.

Much of the battleground is in public office . . . in local governing bodies, in statehouses and legislatures, in Washington. We are busy men in the practice of medicine, but I would argue that we dare not become so busy that we one day awaken to find our traditional status abdicated and our prerogatives eclipsed by a superimposed governmental authority we were too busy to see coming. Already, it may be too late to win anything but a partial victory.

SoDaPac can be and is our political voice. Through it and with it we can effectively support the candidates of our choice and the political party and principles which offer the best answers to our problems.

SoDaPac was organized and has functioned to give the South Dakota physician an entree into the political arena with a force and effect which will be heard and heeded. It is your weapon. Don't be hesitant about using it.

And by the same token don't be hesitant about supporting it. American medicine . . . South Dakota medicine . . . has a fight on its hands. SoDaPac is on our side.

G. Robert Bartron, M.D.,  
President



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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## Fifty - Year - Old Woman With Nocturia

B. J. BEGLEY, M.D.\*  
*Urologist-Discusser*

JOHN F. BARLOW, M.D., FCAP\*\*  
*Pathologist-Editor*

### Case No. 500724

This 50 year old Caucasian mother of seven entered Sioux Valley Hospital because of nocturia three to four times and frequency of small amounts of urine during the daytime for the past year. There was recent spraying of the stream and a feeling of blockage inside the urethra. She had been evaluated 6 years previously for dysuria, hematuria, and small stream for several days. Cystoscopy and retrogrades showed a urethrotrigonitis. There were no other significant findings. Urethral dilations relieved her symptoms until the present complaints over the past year. Nine years previous she had a vaginal hysterectomy for uterine prolapse and repair of a cystocele and rectocele, but had no known urinary problems after the procedure.

**Past medical history:** She had vein ligation and stripping for varicosities of the right lower extremity two years previously and a cholecystectomy for chronic cholecystitis and cholelithiasis twenty years previously. An appendectomy had been done many years previously. She had frequent right-sided and temporal throbbing headaches, particularly in the winter. These were relieved by Methysergide maleate (Sansert) one tablet b.i.d.

**Physical examination:** Blood pressure 132 systolic and 78 diastolic, pulse 80/min. and regular, respirations 20/min., temperature 99°F. Examination of the head was negative. The breasts were negative. There was a normal sinus rhythm with no murmurs on the cardiac evaluation.

The lungs were clear to auscultation and percussion. The abdomen was soft and without organs or masses. The urethra was normal and accepted a sound freely. The residual urine was 7 cc. There was a great deal of scarring in the vaginal vault, but no other abnormalities.

**Clinical pathology data:** Urinalysis - straw-colored, clear, specific gravity - 1.016; pH - 7.0, negative for glucose, protein, ketone bodies, hemoglobin; microscopic: occasional leukocytes, erythrocytes, and epithelial cells. Hgb. - 12.2 gms/100 ml., red count 4.29 million/mm<sup>3</sup>, hematocrit 39 Vol. %, mean corpuscular hemoglobin 29 micromicrograms, mean corpuscular volume 92 cubic micra, mean corpuscular hemoglobin concentration 32%, total leukocyte count 7,600/mm<sup>3</sup> with 67% segmented neutrophils and 33% lymphocytes. The platelets and red cells were normal on smear. Blood urea nitrogen 17 mgs/100 ml., fasting blood sugar - 105 mgs/100 ml. Urine culture from bladder, right and left kidney: No growth in 48 hours. A culture of urine for tuberculosis was negative. An intermediate PPD was negative (mantoux).

A cystoscopy and retrograde pyelogram revealed that the bladder neck and urethra were normal. The ureteral orifices were normal. Bilateral retrograde pyelograms and ureteropyelograms showed chronic dilatation of the calyces on both sides. Microscopic examination of urine from the right kidney revealed 2-3 red cells and 0-1 leukocytes per high power field and an occasional hyalin cast. There were 1-2 red cells and 25-30 leukocytes per high power field from the left kidney. Urine from the bladder showed 3-4 red cells and 6-8 leukocytes per high power field. An intravenous pyelogram showed nonvisualization of the left collecting system and apparent compensatory hypertrophy on the right. There was some medial deviation of the ureters.

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## CLINICAL PATHOLOGICAL CONSULTATION

DR. BEGLEY: There are several ways to approach this case. Probably the best is to show the x-rays first. We have an intravenous pyelogram and retrograde pyelogram. There was nothing mentioned about the urethra, so I assume that the shadow which might indicate a diverticulum of the urethra is not such on urethroscopy. The striking finding on the intravenous pyelogram is the lack of opacification of the left kidney. The retrograde pyelograms, I assume, were performed the following morning. The catheter was said to have been passed with ease which is not too unusual in the condition I believe this patient has. I do not know how much residual urine was present in the kidney. There appears to be bilateral dilatation of both calyceal systems worse on the left than on the right. There is no calcification and cultures were negative for tuberculosis and the skin test for tuberculosis was negative. This pretty much rules out tuberculosis. I think the striking finding is down near the pelvic brim where there is definite medial deviation in the ureters.

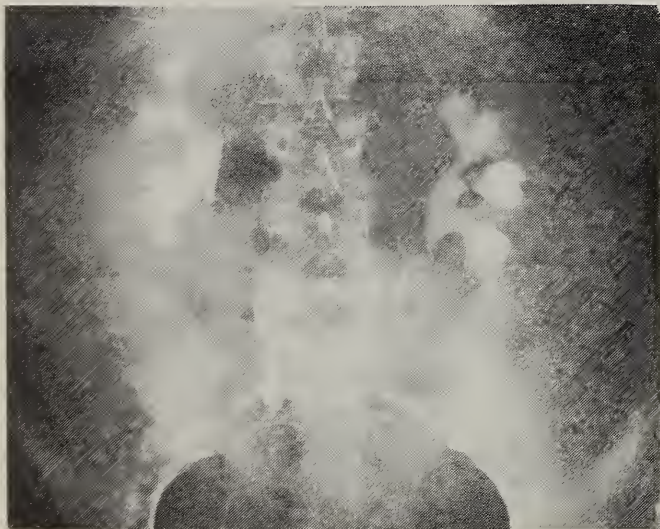


Figure 1

Note medial deviation of ureters.

I should definitely mention that the right kidney is larger than the left. This may be due to compensatory hypertrophy or be the disparity in size of kidneys that you do see in a percentage of the population. The percentage is usually given as 7% but may be more or less. If the disparity in size represents compensatory hypertrophy of the right kidney, it must have gone on for some period of time.

\*DR. WARREN JONES: How long?

\* Specialist in internal medicine, Sioux Valley Hospital, Assistant Dean, School of Medicine, University of South Dakota

DR. BEGLEY: I usually use the rough figure of about six months before a good compensatory hypertrophy can occur due to atrophy of the opposite kidney.

In summary, we have a non-functioning left kidney on intravenous pyelogram, but a catheter can be passed up that side with relative ease. I assume the kidney was excreting some urine. I think we can say then that a vascular occlusion to the left kidney was therefore unlikely. There are pus cells in the left kidney. The right kidney is larger than the left. There is medial deviation of the ureters.

The most significant part of the history is that the patient was on Methysergide maleate (Sansert), a serotonin antagonist which is a lysergic acid derivative. This drug has been associated with retroperitoneal fibrosis which appears to be definitely drug related since people with migraine headaches, not treated with Methysergide, do not have an increased incidence of retroperitoneal fibrosis. I think probably the diagnosis, in this case, is retroperitoneal fibrosis. I think the medial deviation of the ureters is very characteristic of this condition. It is purely through serendipity that I make the diagnosis. The usual patient with retroperitoneal fibrosis has severe back or girdle pain, usually in the lumbar region. You usually have to make the diagnosis of retroperitoneal fibrosis by doing an intravenous pyelogram in the patient with such back pain and see the characteristic medial deviation of ureters or obstruction to ureters. Hopefully, this is done before the operation for lumbar disc or lumbar myelogram. There are some characteristics of the pain of retroperitoneal fibrosis. It is relieved by flexion of the spine and increased by extension of the spine. Surprisingly, it is more relieved by aspirin than by demerol. It is important to point out that the fibrous retroperitoneal process is one that involves mainly the region around the vertebra and great vessels. The ureters are only involved incidentally. The walls of the ureters are rarely invaded and when the ureters are freed-up the patient is usually relieved of his pain and urinary obstructive symptoms. The Mayo Clinic urology group has reported that some patients whose retroperitoneal fibrosis is due to Sansert will improve by discontinuing the Methysergide and draining the kidneys with ureteral catheters only. This kind of therapy does require the strength of one's convictions because most of the deaths in this disease are due to progressive renal deterioration due to the obstruc-



tion and/or obstruction with secondary infection.

## DR. B. J. BEGLEY'S DIAGNOSIS

### RETROPERITONEAL FIBROSIS SECONDARY TO METHYSERGIDE

\*DR. W. O. ROSSING: Before we get off the subject, there is an entity called idiopathic fibrous mediastinitis which causes obstruction of the superior vena cava with superior vena cava syndrome. This is similar to the retroperitoneal process, but I do not know if it has been reported in relation to Methysergide. Other cases of mediastinal fibrosis have been secondary to histoplasmosis.

\*\*DR. S. TURNEY: I reported a case about a year ago in the Journal of Thoracic and Cardiovascular Surgery of mediastinal fibrosis with superior vena caval syndrome. This particular patient did not have the usual picture of histoplasmosis with calcified nodes compressing the vena cava. There was terrific fibrous mediastinitis. Some time later the diagnosis was suggested to us by the pathologist. This patient was on methysergide. Other people have reported the same thing.

DR. BARLOW: Dr. Hoskins, what is the follow-up on this patient?

\*\*\*DR. JOHN HOSKINS: Because this patient did not have much pain and because there was only a mild obstruction on the left, we elected to discontinue Sansert on this woman and follow her. Here is an intravenous pyelogram several weeks later and you can see that there is now function on the left side. A subsequent intravenous pyelogram shows even better function.

It is interesting that this lady started Methysergide two years previously under the care of one physician who subsequently died. The patient's present physician had no knowledge that she was on the drug. She had gotten the prescription refilled many times because she had had dramatic relief of her headaches.

DR. BEGLEY: This is a common problem in that the patients have marked relief of their headaches from this medication and have less severe symptoms from their retroperitoneal process so they stay on the drug.

DR. HOSKINS: The group at the Massachusetts

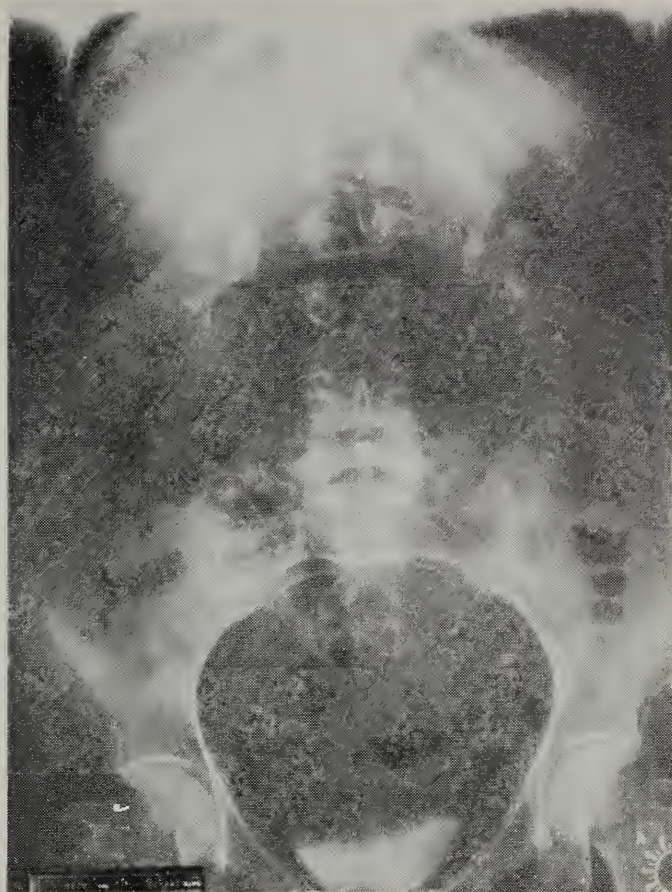


Figure II

Follow-up intravenous pyelogram showing excellent function of both kidneys.

General has reported four or five cases where the discontinuance of Sansert has been followed by dramatic relief of urinary obstruction in several weeks. We therefore elected to try this on this lady even though she was a good surgical risk. The temptation was, of course, to try an immediate surgical relief of the problem.

DR. BEGLEY: I think you are to be commended on your courageous course of therapy in this patient. The patient did have a normal BUN which I think would be necessary before you try conservative therapy such as this.

DR. WARREN JONES: Is this usually unilateral or bilateral?

DR. BEGLEY: It is frequently bilateral but is usually more marked on one side than the other. The disease usually presents in three ways: back pain, symptoms secondary to obstruction of one ureter often with secondary infection, or anuria from bilateral obstruction to the ureters.

This disease was first brought to general medical attention in 1948 by Ormond. However, others have reviewed the literature where retroperitoneal fibrosis had been described before that time. I saw my first case at the University of Iowa in 1953. We thought sure that this was a case of carcinoma and did a neph-

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roureterectomy. When the pathologist reported only fibrotic material instead of carcinoma, we began to do some reading and found four cases in the literature at that time. Subsequently, this patient had involvement of his other ureter and we freed up this ureter and relieved his symptoms.

DR. HOSKINS: It should be pointed out that there are many cases of idiopathic retroperitoneal fibrosis. Cases due to Sansert are unusual.

DR. BEGLEY: Yes, this is certainly true. The incidence of the disease, however, seems to be increasing and it may be that this is a reaction due to other drugs.

DR. TURNEY: It is important to remember whether the involvement is retroperitoneal or mediastinal or even with involvement of mesenteric arteries, the process usually involves the region of the vertebral column.

DR. HOSKINS: Some people feel this is an arteritis from the very beginning.

DR. BEGLEY: Some patients may have lymphedema of lower extremities secondary to lymphatic obstruction from the retroperitoneal fibrosis. Lymphangiogram has shown this in some cases and not in others. I think the treatment of retroperitoneal fibrosis is to free-up the ureters out of the fibrous tissue mass (ureterolysis). I think it is best actually to peritonealize the ureter (to put it into the peritoneal cavity) and use the peritoneum as a barrier between the ureter and the fibrous tissue mass.

DR. JONES: Why the medial deviation of the ureters?

DR. BEGLEY: I think we have to realize that this is really not a urologic disease. The process of retroperitoneal fibrosis is a fibrosis about the great vessels and it only involves the ureters peripherally and drags them in. The ureter, as I said, is usually not invaded by the process, but simply compressed.

DR. BARLOW: I would like to briefly review some pertinent points about this disease. Idiopathic retroperitoneal fibrosis usually causes obstruction of the ureters in the retroperitoneal space although the great veins or arteries may be compressed. The disease can occur at any age but usually in fourth and fifth decades. It is more common in males than females. Grossly a poorly delineated ligneous mass of tissue extends as a plaque from the brim of the pelvis up near the renal pedicle and laterally to the ureters. Microscopically there is often a perivascularitis in the early stages of the disease but this

progresses to an active fibroblastic process with polymorphonuclear leukocytes, lymphocytes, plasma cells to finally a hyalinized contracted mass. Infiltration of the vessel walls by chronic inflammatory cells with intimal fibrosis may be a primary or secondary change.

The process is totally nonspecific pathologically. It is important to remember many other conditions can mimic this process.

The differential diagnosis is long and includes primary retroperitoneal tumors, retroperitoneal xanthogranuloma, metastatic carcinoma, malignant lymphoma, carcinoma of the ureter, uric acid stone, fibrosis about aneurysms of the aorta or iliac vessels, retroperitoneal infections such as tuberculosis or brucellosis, retroperitoneal sepsis secondary to a retrocecal appendicitis or diverticulitis of the colon, and periarteritis nodosa.

Common presenting complaints are varied. Unusual presentations such as diabetes insipidus have been described. Edema from compression of the retroperitoneal veins and intermittent claudication due to arterial obstruction are rare. Usually back pain or symptoms of ureteral obstruction bring the patient to the physician. Symptoms in a recent review of sixteen cases by Kerr et al are as follows:

Common Presenting Symptoms	No. of Cases
pain (low back, abdomen)	16
weight loss	6
nonspecific gastrointestinal symptoms	6
generalized malaise	4
urinary symptoms (frequency, dysuria)	3
fever and chills	2
circulatory symptoms	2

In this same series there was unilateral involvement of the ureter in 3 and bilateral involvement of the ureter in 13 cases. Pathologic diagnosis with medial deviation or obstruction of ureters is very helpful in diagnosis on IVP. There may be a mild anemia, leukocytosis and increased sedimentation rate.

The etiology of most of the cases is poorly understood. Some feel this is a disease of small blood vessels with leakage of fluid through damaged vessel walls causing a secondary inflammatory process. The periaortic location may be able to be explained on the basis of the high head of pressure in the lower aorta.

Another explanation has been that the disease is part of the collagen or autoimmune group of diseases. Retroperitoneal fibrosis has been reported in association with Raynaud's



disease, pulmonary fibrosis and antinuclear factors in the blood.

A third explanation is that retroperitoneal fibrosis is part of a generalized fibrotic tendency since it has been seen in patients with mediastinal fibrosis, sclerosing cholangitis, Reidel's struma, pulmonary fibrosis, keloid formation, and Dupuytren's contracture, pseudotumor of the orbit, and Peyronie's disease. All of these represent abnormal proliferations of fibrous tissue.

Of particular interest has been the finding of a reversible form of retroperitoneal fibrosis in patients taking methysergide maleate (Sansert), an ergot derivative introduced in 1962. Twenty-seven cases of the disease associated with methysergide were reported by Graham et al in 1966. Thirteen markedly improved without surgery when methysergide was discontinued. It is interesting that in this article methysergide was also implicated in causing cardiac abnormalities. Since this article involvement of the aorta and iliac arteries and mesenteric arteries with arterial insufficiency has been described with patients on methysergide. The drug is a very effective one for migraine but the patient must be followed closely. Some have recommended biannual intravenous pyelography to detect silent ureteral obstruction.

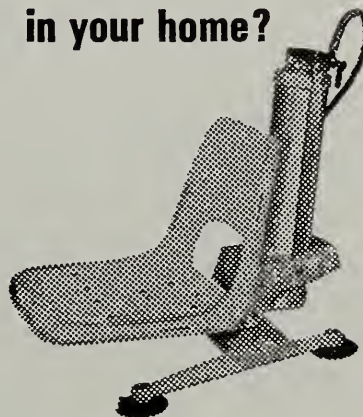
In conclusion, I would like to stress the process is pathologically nonspecific and inflammation from extravasation of urine or other causes can give a similar picture. Biopsy is not specific and has been misdiagnosed as malignancy on frozen section. Like all diseases the entity must be considered before the diagnosis is made.

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# ECONOMICS



## SOUTH DAKOTA'S PLAN FOR MERGING THE FUNCTIONS OF REGIONAL MEDICAL PROGRAMS WITH THOSE OF COMPREHENSIVE HEALTH PLANNING

By

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Robert H. Hayes, M.D.\*\*

James R. Nordstrom, M.S.P.H.\*\*\*

Richard W. Blair, M.S.\*\*\*\*

### Introduction

New ways to plan, organize and deliver health care to individuals and communities are topics of current interest in the United States. A recent review of the laws which established Regional Medical Programs (RMP) and Comprehensive Health Planning (CHP) suggested that there are similarities between these programs.<sup>1</sup> In some states this has created a duplication of effort, poor coordination of health planning, and unhealthy competition for trained health personnel and limited funds. Can the American people, or the people of a State like South Dakota, afford to pay for this type of uncoordinated duplication of effort?

In South Dakota we recently had an opportunity to address ourselves directly to this problem. Governor Frank L. Farrar of South Dakota, in 1968, was the first governor to point out the similarities between RMP and CHP in a letter to DHEW Secretary, Robert L. Finch. Governor Farrar was encouraged to explore ways to coordinate activities between these two programs. At that time CHP was organized in the Office of the Governor and RMP activities in South Dakota were associated with the two-

state, Nebraska-South Dakota Regional Medical Program.

In 1970 the people of South Dakota decided to separate from the Nebraska-South Dakota RMP and establish a separate South Dakota RMP. These events afforded South Dakotans with an unusual opportunity to reevaluate RMP-CHP relationships and to plan for the future. The result was a South Dakota Plan for merging the functions of RMP with those of CHP. A similar trend was taking place on the national level as evidenced by RMP and CHP both being administered by the Health Services and Mental Health Administration (HSMHA). It is interesting to observe that since submission of the South Dakota Planning Grant some policies similar to those of the South Dakota Plan have been adopted on a national level by HSMHA.

### Brief History

In 1965 a group of interested Nebraska and South Dakota health personnel came together to form a Regional Medical Program under PL 89-239. The guidelines for a Region were felt to be a geographic area which had within it a medical center which devoted its primary interest to clinical research and a population base of 1.5 million people. The South Dakota personnel felt that to become involved they would have to join with a larger area and Nebraska was chosen. South Dakota felt her needs to be great and Regional Medical Programs appeared to be a worthy mechanism to assist in satisfying those needs.

The Nebraska-South Dakota Regional Medi-

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\*\*\*Administrator, School of Medicine, University of South Dakota, Vermillion, South Dakota.

\*\*\*\*Executive Officer, State Department of Health, Pierre, South Dakota. Formerly, Director, Comprehensive Health Planning for South Dakota.



cal Program during the first 3 years, spent a considerable portion of its efforts in establishing a functioning organization, in recruiting Core Staff members, and in developing four operational projects (programs), of which three were funded in January, 1970. As originally approved, the States of the Region, Nebraska and South Dakota, would function essentially as independent geographic areas under the guidance of a joint Advisory Group composed of two divisions — one designated as the Nebraska Advisory Group, the other as the South Dakota Advisory Group. It was soon realized that in order to develop a truly regional program, the Advisory Group should function as one group. The Regional Advisory Group was composed of sixty-four members drawn from the two-state region. Task Forces on Heart, Cancer, Stroke, Continuing Education and Manpower and Services were appointed to determine program goals and priorities for these various activities.

For various reasons the two-state, Nebraska-South Dakota RMP proved to be unsatisfactory from the viewpoint of South Dakotans (and later Nebraskans). In February, 1970 the South Dakota members of the Regional Advisory Group voted to separate from Nebraska. Subsequently a Planning Grant Proposal for a Separate South Dakota Regional Medical Program was developed and submitted for approval and funding by the National Advisory Council.

One should not assume from this brief history that all of the results of the two-state RMP were negative. Some decidedly positive results were obtained for both states. For South Dakota these were: the health leaders of the state were identified and learned that they could work together; it was found that a two year medical school (the University of South Dakota) could extend its functions to include community health services; a comprehensive survey of South Dakota's health problems and resources was completed; major health problems were identified and priorities were set for solving these problems; and South Dakotans became convinced that they could solve their own health problems.

### Organization

The Region to be served by the South Dakota RMP is the State of South Dakota. The University of South Dakota is the grantee institution for the South Dakota RMP. The grantee is legally and administratively responsible for the conduct of the Regional Medical Program. As such, the University of South Dakota is the fiscal agent for the program and the Director and

Core Staff members are employees of the University.

The Director of the South Dakota RMP shall be a physician who is a graduate of an American Medical Association approved School of Medicine, he shall have completed at least one year of internship, and shall either be licensed by or be eligible to receive a license from the South Dakota Board of Medical and Osteopathic Examiners. Previous experience or training in the administrative aspects of medicine is highly desirable. The Director should have previously demonstrated leadership qualities and the ability to work with various types of health providers and health consumers. He is the chief administrative officer of the RMP. His relationship to the Regional Advisory Group is analogous in many ways to that of a hospital administrator to the Hospital Board of Trustees.

There is an Associate Director and four Assistant Directors whose functions are related to the major program areas considered important to the goals and objectives of the South Dakota Regional Medical Program, i.e., Heart Diseases, Cancer, Stroke, Health Manpower, and Continuing Education.

The remaining members of the Core Staff, excluding the administrative assistant and the secretaries, are technical experts in health or health-related fields who will serve as resource personnel to all Directors and projects.

Of special importance are RMP-CHP representatives. They represent a new category of health personnel. These men will spread out into the six planning regions of South Dakota to assist individuals, voluntary organizations, hospitals, and other interested parties to develop acceptable grants. At present these individuals and organizations have limited grantsmanship ability. Figure 1 depicts the six planning regions of South Dakota.

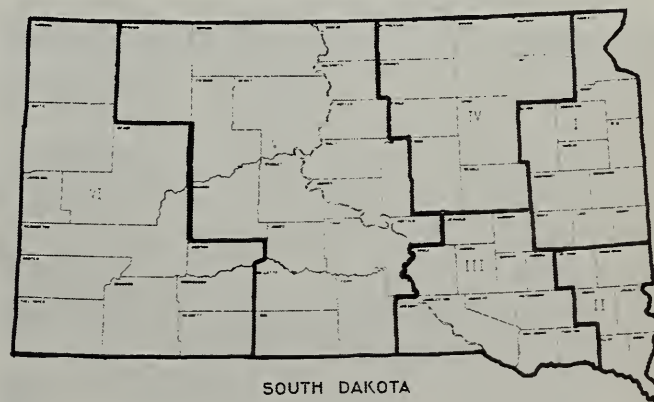


Figure 1  
Six Health Planning Regions of South Dakota, 1971.



### **Regional Advisory Group**

A unique feature of the South Dakota Plan is that the same Regional Advisory Group will serve for both the Regional Medical Program and Comprehensive Health Planning in the State. In other states and regions there are separate advisory groups (councils) for RMP and CHP.

The Regional Advisory Group shall provide overall advice and guidance to the grantee institutions in the planning and operation of South Dakota's RMP and CHP programs. It shall be actively involved in the development of regional objectives, as well as the review, guidance, and coordination of the ongoing planning and operating functions. It shall be constituted to encourage cooperation among the institutions, organizations, health personnel, state and local health agencies, and consumers of health services. It shall be concerned with continuing review of the degree of relevance of the planning and operational activities to the objectives of the programs. All federal grants for health programs in South Dakota must be approved by this Regional Advisory Group.

The Regional Advisory Group shall be limited to 41 representatives from South Dakota. Of the 41 members, 21 shall be consumers of health care and 20 shall be providers of health care. The policy of having more consumers (laymen) than providers (health professionals) is a marked departure from the Regional Advisory Groups of most RMP's which are heavily weighted in favor of health professionals. A majority of consumers is a requirement of the CHP law, but it also fits into the framework of the RMP law.

Ex officio members of the Regional Advisory Group include the State Health Officer, the Director of the Mental Health Commission, the Director of the Indian Health Service, the Commissioner of Higher Education, the State Welfare Director, and the Hospital Director of the Veterans Administration Hospital.

### **Merging Functions**

The South Dakota Plan for merging the functions of RMP with those of CHP consists of 6 initial phases. These phases are consistent with both laws and we believe this to be a workable plan for South Dakota. This plan may serve as a prototype which can be adapted to other Regions which consist of a single state in which the RMP grantee is a state university and the CHP agency is in the Office of the Governor or another agency of state government. The six

phases of the South Dakota Plan follow:

- (a) The grantee for the South Dakota Regional Medical Program will be the University of South Dakota. The grantee for the South Dakota Comprehensive Health Planning Agency will be the Office of the Governor. Thus, two separate agencies are retained to receive funds from two separate sources (CHP and RMP). This phase is consistent with both PL 89-239 and PL 89-749.
- (b) RMP and CHP will have a common Regional Advisory Group (Council). This group will consist of 41 members, of whom 21 are consumers and 20 are providers. A majority of consumers is consistent with the CHP law. The providers include members of the medical, nursing, and paramedical professions, and representation from the medical school, hospitals, nursing homes, universities, voluntary health organizations and official health organizations. This broad representation is consistent with the policies of both RMP and CHP.
- (c) All projects and grants must be approved by the common Regional Advisory Group and must conform to the State Plan and objectives decided upon by the Regional Advisory Group. This would reduce the costly competition and duplication between RMP project grants and CHP 314e grants. Furthermore, this phase should improve coordination and communication which often are lacking where there is no merger of RMP with CHP.
- (d) Joint RMP-CHP Staff meetings will be held to improve communications and to avoid duplication of efforts. This phase also makes it possible to share the ideas of staff members having special expertise in the field of health.
- (e) There will be a delineation of responsibility for planning specific health programs by the staffs of RMP and CHP. For example, the RMP staff will be responsible for planning programs for heart diseases, cancer, stroke, continuing health education, and health manpower. Whereas, the CHP staff will be responsible for planning in the areas of health services, health facilities, environmental health, Indian health, and mental health-mental retardation. It is anticipated that health problems will arise which require the RMP and the CHP staffs to cooperate in planning. This



is entirely possible within the aforementioned organizational structure. The major thrust will be directed toward getting the health planning and health care jobs done in South Dakota.

- (f) Positions will be established for RMP-CHP Representatives who will service the six planning areas of South Dakota. A representative will service both programs in the geographical area to which he is assigned.

This new hybrid of health worker would live in the health planning subregion that he serves. In addition to working with groups, colleges, hospitals, and institutions to develop RMP project grants, he would also work with community leaders to develop CHP-314b areawide planning grants. The RMP-CHP Representative is the individual who brings both programs to the community. Furthermore, he could serve as a health and welfare referral person for his subregion.

Although we believe the functions of RMP and CHP should be merged in South Dakota, there is nothing sacred about the aforementioned South Dakota Plan. If the proposed merger doesn't work within 12 to 18 months, we will simply modify it. One thoughtful member of the RMP-CHP Regional Advisory Group states, "Ideally what we would like in South Dakota is one agency, one director, one staff, one source of funding, one set of objectives, and one program." While this would be difficult to accomplish within the legal framework of RMP and

CHP, it expresses the wish of South Dakotans to press on with the job of improving health services.

If sharing the costs of RMP-CHP Representatives proves a workable plan, it is possible that the funding of other staff members could be shared. Function (health planning and programming) is of far more importance than structure (grantees) in South Dakota. As experience dictates changes in the merger, we believe South Dakotans have the flexibility to make the changes.

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## **News Notes • Changes • Births • News**

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The Williams Surgical Clinic, Rapid City, announced the association of **William J. Mattson, M.D.** in the practice of general and vascular surgery.

\* \* \*

A team of specialists in medical education has recommended to the South Dakota regents of education that South Dakota retain its present two-year school of medicine at the University of South Dakota.

\* \* \*

A laminar airflow system, designed to reduce bacterial count to a microscopic minimum, has been installed in one operating room at McKennan Hospital, Sioux Falls. While it is used primarily for total hip replacements, it is also helpful in vascular surgery where infection can be disastrous. The system filters the operating room air beyond the extent seen in regular operating room suites. The system uses HFPA filters which eliminate 99.97 percent of any organisms of above the arbitrary size of 0.3 microns. The air in this operating room circulates at a rate exceeding 200 times per hour. Controlled bacterial studies taken before and after insertion of the unit show a marked reduction in the bacterial count according to **Doctor Loyd Wagner**, hospital pathologist, who has made a study of the bacterial counts. This unit is the first laminar airflow system installed in the state of South Dakota.

**R. C. Jahraus, M.D.**, and **B. O. Lindbloom, M.D.**, Pierre, have been certified by the American Board of Family Practice.

\* \* \*

Governor Richard Kneip has appointed **John Tschetter, M.D.**, Huron, to the State Board of Examiners for Nursing Home Administrators and **R. R. Giebink, M.D.**, Sioux Falls, to the State Mental Health and Mental Retardation Commission. **William Bormes, M.D.**, Aberdeen, was appointed to the South Dakota State Board of Medical and Osteopathic Examiners and **G. E. Tracy, M.D.**, Watertown, was selected to serve on the State Medical Panel.

**Richard Hockett, M.D.**, Mitchell, has been elected to fellowship in the American College of Obstetrics and Gynecology.

\* \* \*

**M. G. Mutch, M.D.**, Sioux Falls, presented a paper, "Fetal Monitoring" at the Continental Gynecological Society meeting in Hawaii. He was also elected to membership in that organization.

\* \* \*

**C. L. Swanson, M.D.**, Pierre, has successfully completed 150 hours of accredited post graduate medical study and has been re-elected to active membership in the American Academy of General Practice.

\* \* \*

The Woman's Auxiliary to the South Dakota State Medical Association was presented an award for the largest per capita contribution to AMA-ERF in the North Central Region at the annual convention of the National Auxiliary in Atlantic City. Since 1962 the AMA-ERF has guaranteed 134 loans to South Dakota medical students, interns and residents, totaling \$147,150. The University of South Dakota School of Medicine received \$7,050 for 1970 from AMA-ERF. These are unrestricted funds which have done much to keep the quality of medical education at its present high level.

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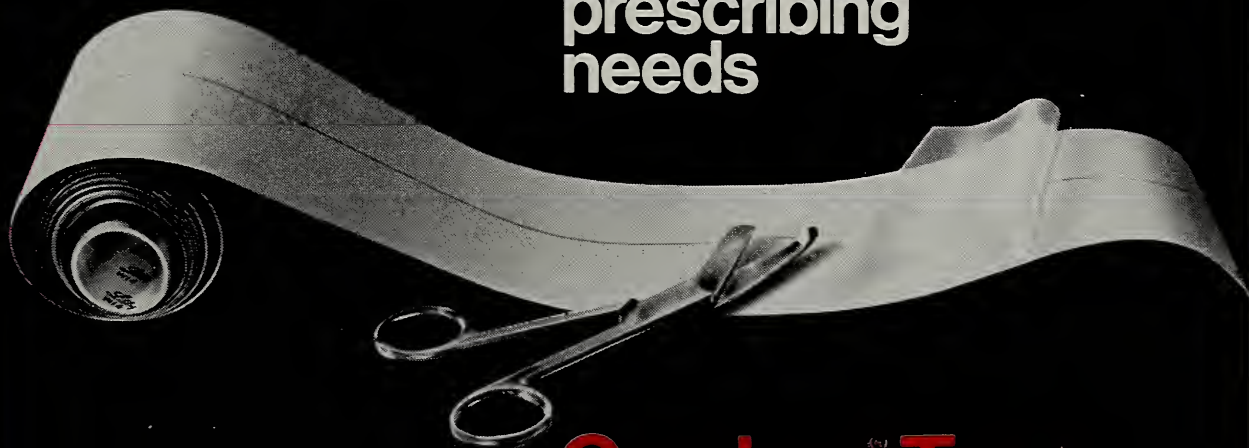
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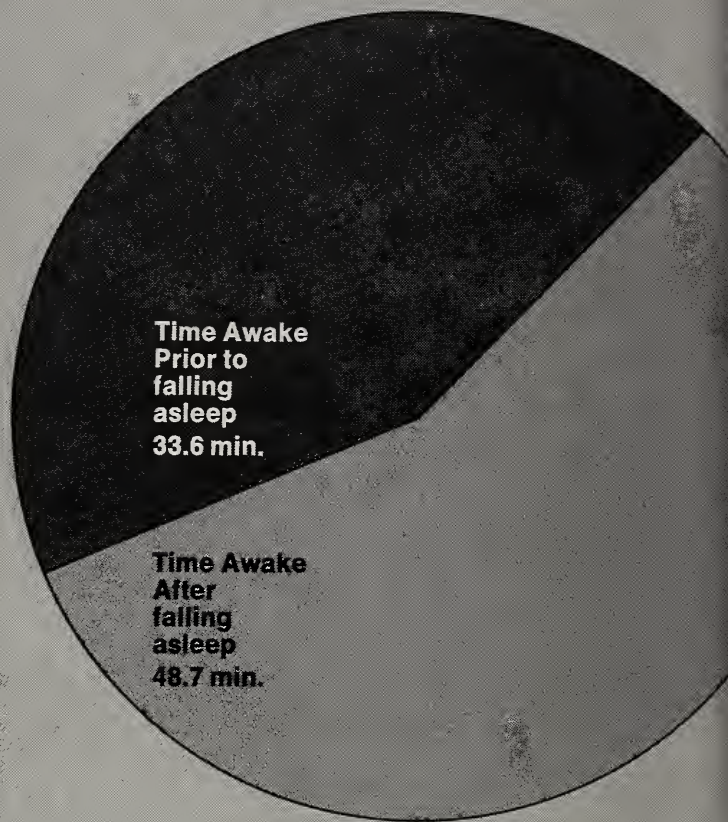
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**References:** 1. Frost, J. D., Jr.: "A System for Automatically Analyzing Sleep," Scientific Exhibit presented at Clinical Convention, A.M.A., Boston, Nov. 29-Dec. 2, 1970, and Aerospace M.A., Houston, April 26-29, 1971.

2. Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley, N.J.

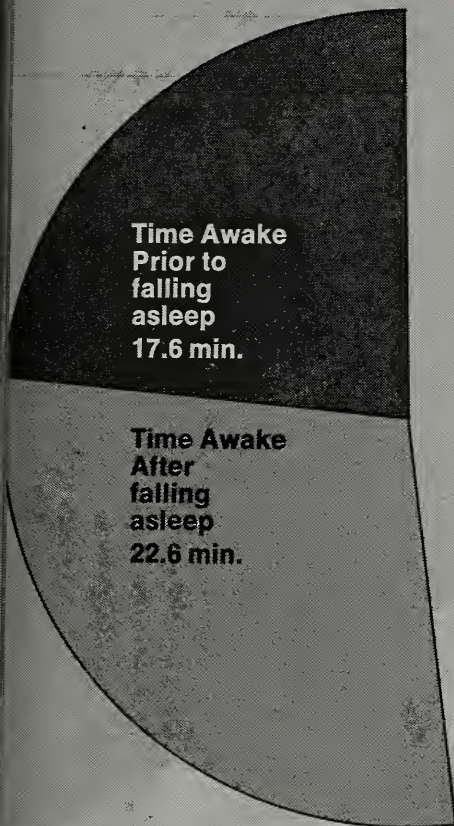
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**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

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# CONTENTS

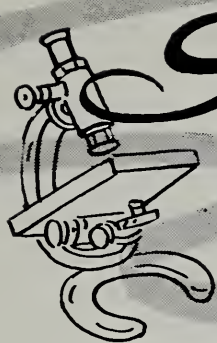
Volume XXIV

October 1971

Number 10

Menisceal Tearing in Pseudogout (Chondrocalcinosis, Pyrophosphate Arthropathy) . . . . .	51
Robert E. Van Demark, M.D.	
Ketamine Anesthesia . . . . .	13
S. M. Doubrava, M.D.;	
Eugene Larson, R.N.A.	
President's Page . . . . .	20
Radiologist Case Presentation No. 8 . . . . .	25
Martin Frank Petereit, M.D.	
Health Care Cost Increases—	
Nationally and South Dakota . . . . .	31
J. B. Gregg, M.D.	
This Is Your Medical Association . . . . .	36





# Scientific

# PAPER

## MENISCEAL TEARING IN PSEUDOGOUT (Chondrocalcinosis, Pyrophosphate Arthropathy)\*

Robert E. Van Demark, M.D., F.A.C.S.\*\*

Degenerative changes and calcification of the knee menisci occur in individuals over fifty. Smillie in his lectures<sup>8</sup> and recent text<sup>7</sup> has called attention to the predisposing effect of degenerative changes resulting in meniscal tears. In pseudogout the deposition of calcium pyrophosphate in the lacunae and perilacunar sites result in chondrocytic death<sup>1</sup>, and radiologic calcification. The reason for the deposition of the calcium pyrophosphate in the cartilage remains unclear.<sup>2</sup>

Recent studies have shown the presence of calcium pyrophosphate crystals in 5.6 percent of menisci of a large series of cadavers.<sup>5</sup> Pseudogout is undoubtedly not as infrequent in its occurrence as in its recognition. Smillie states it is much more common than gout. Its manifestations may be protein as in a recent personal case (a dentist) to be reported,<sup>6</sup> the patient's principal complaint being acute back pain.

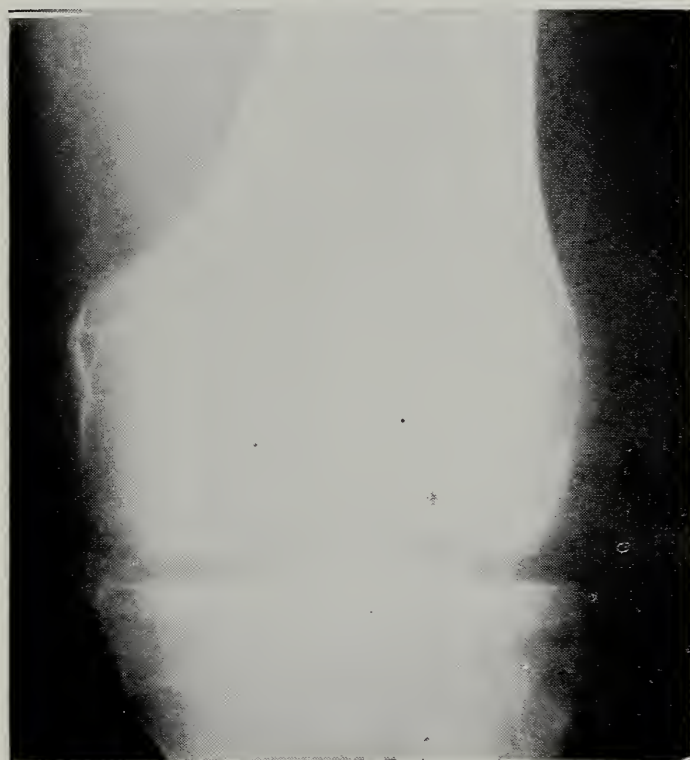
Most of the presentations on pseudogout (chondrocalcinosis, pyrophosphate arthropathy) have discussed the general joint manifestations of the condition. It is of interest therefore, to present a case in which the complaint was due to multiple tears in a degenerated calcified meniscus of the knee.

### Case Report

A white male, age 72, a retired Mennonite minister, was first seen on October 1, 1970 with complaints of pain over the inner aspect of his left knee of ten years duration. There was no

known history of injury. Working on the knees aggravated the condition. Patient had chiropractic treatments without relief. He had received medications with some improvement.

Figure 1



Antero-posterior roentgenographic view showing the calcification of the medial knee joint, described in the case report.

Physical examination revealed a white male with marked tenderness over the medial aspect of the joint, particularly posteriorly where the joint was quite prominent at the joint line. The patient had some crepitation of the knee on motion, but a full range of motion was present. The patient's X-ray was reported as follows: "AP both knees plus AP and lateral

\*Paper presented at the 19th annual meeting of the S. Dak. Chapter American College of Surgeons, Sioux Falls, South Dakota, May 1, 1971.

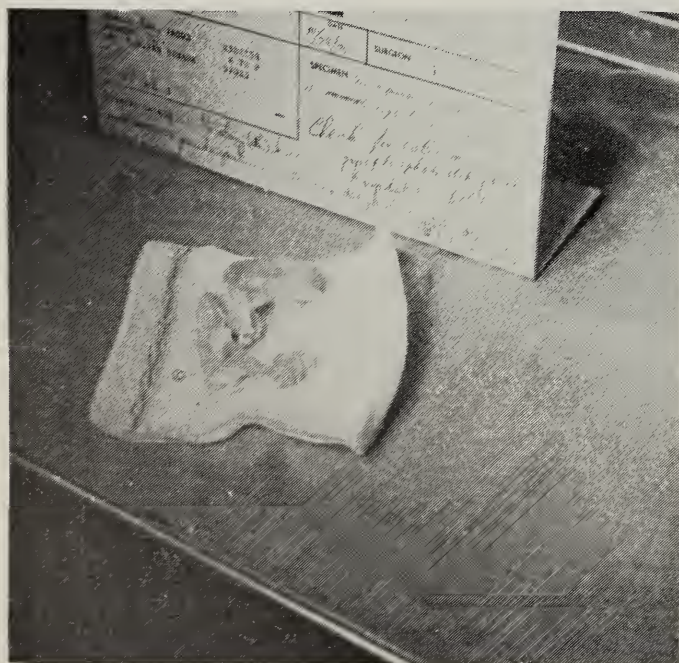
\*\*Sioux Falls, South Dakota



left knee: No bony abnormalities are seen in either knee. There is moderate calcification of joint cartilage bilaterally, this being more severe on the left. There is bilateral calcification in the popliteal arteries. Except for mild degenerative spurring, no other abnormalities are seen." (Dr. B. R. McHardy) Patient's sedimentation rate was elevated to 35 mm. per hour. (Westergren); the hemoglobin was 12.4 grams. A tentative diagnosis was made of pseudogout and it was recommended the patient have further studies including a synovial fluid examination and an arthrogram. Synovial fluid was not diagnostic and findings were reported equivocal; only one rhomboid shaped intracellular crystal was found. The synovial fluid was light yellow in color. The WBC was 7,300 with 42% segmented and 58% lymphs. The total protein was 3.2 milligrams and the mucin clot was good. The arthrogram was not diagnostic for tear of the medial meniscus and reported as showing no evidence of joint effusion or loose bodies within the joint.

It was recommended that the patient have an arthrotomy of the knee with excision of the torn calcified cartilage and this procedure was carried out on the 28th of October, 1970. A moderate effusion was present in the joint and a syringe of fluid was removed and forwarded to the laboratory for examination in addition to removal of a badly degenerated and torn meniscus. The pathological report was as follows: "Preop: pseudogout  $\text{CaPO}_4$  dihydrate

Figure 2



Photograph of the gross pathological specimen, showing the multiple tearings and fraying.

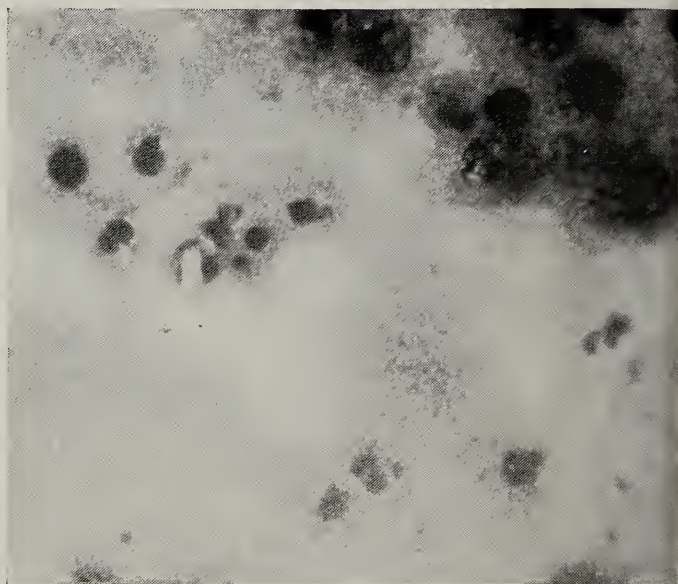
crystal deposits in (L) knee joint. Gross: submitted fresh is a meniscus measuring 6.0 cm. in length and 1.5 cm. in maximum diameter. Attached to its posterior margin is a 3.5 x 2 x 2 cm. mass of synovial tissue. Scattered throughout both portions of the specimen are multiple foci of white chalky calcific material, most prominent in the posterior mass of synovial tissue. Fresh smears of these deposits show birefringent rhomboid crystals."

The patient's postoperative course was uneventful from the standpoint of his knee. He got out of bed and walked on his knee the same day of surgery with no ill effects. He was subsequently discharged from the hospital after a medical work-up. The postoperative course of his knee has been satisfactory in all respects and he has no complaints of the opposite knee.

### Discussion

McCarty and Hollander<sup>3</sup> in 1961 using polarized light microscopy identified urate crystals in synovial fluid from acute gouty joints. The following year McCarty, Kohn and Faires<sup>4</sup> reported the discovery of an entirely different type of crystal in the fluid from acutely inflamed non-gouty joints. These crystals of calcium pyrophosphate dihydrate appear as rods averaging about 5 microns in length, exhibit weak positive birefringence, the angle of extinction being slightly oblique. (Fig. 3).

Figure 3



Typical calcium pyrophosphate dihydrate crystal from another personal case of the author<sup>6</sup>. (Courtesy of Dr. John Barlow)

### Summary

Calcium pyrophosphate arthropathy of the knee occurs more frequently than gout, al-



though its clinical recognition is far below the autopsy finding in 5.6% of specimens. Its perilacunar deposition results in chondrocytic death with calcification.

Acute pseudogout (acute pyrophosphate arthropathy) may simulate gout, or may be less severe. One or a few joints are affected with each attack but usually large joints (such as the knee, hip or shoulders) are affected more commonly than the small joints. Acute attacks can be precipitated by surgical operations or the administration of diuretics, and untreated, persists for about ten days, going on to sub-acute or later chronic forms. During the acute attack malaise, fever, high erythrocytic sedimentation rate and a leukocytosis may occur, associated with joint effusion in which the characteristic calcium dihydro-pyrophosphate crystals can be demonstrated. Treatment in the acute phase consists in aspiration of the joint fluid (if possible) and injection of a corticosteroid. Phenylbutazone and indomethacin in large doses may be used over a period of a few days. Colchicine is ineffective, according to McCarty. Repeated attacks result in calcification of the cartilage and permanent degenerative changes. Chronic joint changes can also occur in individuals who have never experienced an acute episode.

The degenerated meniscus is easily torn as in this reported case, without definite trauma. Excision of the degenerated and torn meniscus results in marked clinical improvement.

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**Contraindications:** Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

**Warnings:** Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia ( $>5.4$  mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., certain elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently—they can both cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triam-

terene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

**Precautions:** Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Anti-hypertensive effects may be enhanced in post-sympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

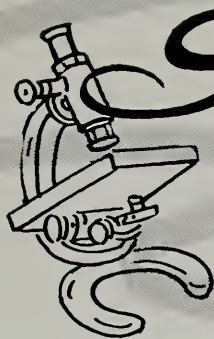
**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

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# Scientific

# PAPER

## KETAMINE ANESTHESIA\*

S. M. Doubrava, M. D. and Eugene Larson, R.N.A.\*\*

### Ketamine (Ketalar)

Ketamine was released in April, 1970 and has rapidly assumed an important place in Anesthesia. Today it represents the most widely used agent to establish anesthesia on a somewhat different basis than previous methods. Classically there are three basic approaches to anesthesia. First, a local anesthetic agent may be applied either topically, by local infiltration, or as a regional block. (spinal, epidural, caudal, etc.) Secondly, a general anesthetic may be administered. It is a characteristic of all general anesthetic agents that the patient goes to sleep 'from the top down.' That is, the most highly developed areas and those of most recent origin in the central nervous system are anesthetized first. The respiratory and cardiovascular centers are the last to be obtunded. Ordinarily we do not proceed far enough with the anesthetic administration to depress these older, essential areas. If general anesthetic agents affected all areas of the central nervous system equally or in the reverse manner from that described, anesthesia would be difficult indeed. The third approach to anesthesia has always represented a relatively minor concept despite numerous attempts to establish its usage. This form of anesthesia allows the patient to perceive pain and transmit it to the central nervous system, however his interpretation and/or response is altered. An attempt is made to specifically depress those portions of the brain that respond to or integrate impulses transmitted by the pain pathways. Historically this was first attempted by Crile in his trials of anesthesia by anoci-association. However, in his method there was no clear and specific

alteration of pain interpretation or response as opposed to a general depression of the central nervous system. In the early 1950's Laborit and his co-workers in France tried various combinations of narcotics, tranquilizers, etc. in an attempt to alter or destroy the response to painful stimuli. One outgrowth of this work is the so called 'Lytic cocktail.' (100mg Demerol, 50mg Phenergan and 50 mg Thorazine). While this combination does in fact alter the response to pain perception it also depresses the central nervous system in the usual manner.

Ketamine appears to interrupt the association pathways of the brain before producing sensory blockade. It selectively depresses the neocortex before significantly altering the more ancient cerebral centers and pathways. There is very little change in the reticular activating system which is involved in the maintenance of consciousness. The limbic and extra pyramidal systems show increased activity in the centralmedial area of the thalamus. The patient in this state appears to have a pharmacological sensory isolation. The patient appears to be 'disconnected'—in a hypnotic state with the eyes open and unresponsive. This has prompted the term 'dissociative anesthesia' for the state induced by this drug. It has been demonstrated that some visual and auditory sensory impulses do reach the primary sensory cortex during anesthesia although their potentials are somewhat altered. It is therefore presumed that a sensory isolation must occur within the brain, probably in the association areas. It has been demonstrated that the greater the development of the central nervous system the more potent Ketamine is as an anesthetic agent. This is not only true phylogenetically but is also true of man where larger doses of

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\*Ketamine (Ketalar) Supplied by Parke Davis and Co.



Ketamine are required on the basis of body weight in young children than in adults. Ketamine is generally a rapidly acting anesthetic agent which produces an anesthetic state characterized by profound analgesia, normal pharyngeal-laryngeal reflexes, normal or slightly enhanced skeletal muscle tone, cardiovascular and respiratory stimulation and occasionally a transient, although minimal, respiratory depression. Autonomic and reflex functions are largely unaffected. EEG activity shows a rapid change from dominant cortical alpha waves which normally occur during mental repose to theta rhythms (4-7 cycles per second) within 30 seconds after induction. Ketamine is a non-barbiturate anesthetic agent. Its chemical structure is completely different and unrelated to any other form of anesthetic agent being used today. The drug as prepared is either suitable for intramuscular or intravenous usage.

The toxicity of Ketamine has been investigated carefully and it has been demonstrated that in mice and rats the LD 50 values are approximately one hundred times the average human intravenous dose and approximately 20 times the average human intramuscular dose. A slightly higher acute toxicity was found in neonatal rats but not enough to suggest any increased hazard when used in children. Daily intravenous injections in rats of five times the average human intravenous dose and in dogs intramuscular injections of four times the average human intramuscular dose demonstrated excellent tolerance for as long as six weeks. Twice weekly anesthetic sessions of one, three or six hours duration in monkeys for four to six week periods were all well tolerated. In humans there is no significant cumulative effect on repeated injections. There is no evidence of blood or organ toxicity and little or no tachyphylaxis.

The effect of Ketamine on the respiratory system is generally one of stimulation. However, it has been noted that a transient respiratory depression can occur upon induction. This is reported to last 30-90 seconds. Depression of minute volume exclusively due to the amplitude of respiration causes a minor accumulation of carbon dioxide with a slight shift toward acidosis and at the same time a reduction of the oxygen saturation. After five minutes the transient depression has been nearly completely corrected. The arterial carbon dioxide values before and after the injection of Ketamine con-

firm that, under the conditions of an excitation of the respiratory centers, their depression is transitory. This depression is more apt to occur with rapid administration of Ketamine or in patients premedicated with narcotics or barbiturates. The patency of the airway is well maintained under Ketamine and therein lies one of its greatest advantages. The general anesthetic agents all produce some degree of respiratory depression and permit some relaxation or even partial obstruction of the airway. This preservation of the airway and stimulation of respiration permits procedures to be done with relative ease which formerly required rather technical and mechanical procedures to maintain the airway and support respiration. Specifically, patients having eye surgery no longer require intubation. Patients being placed in the prone position for rectal surgery or burn dressings no longer require endotracheal intubation.

The action of Ketamine on the cardiovascular system is ordinarily one of stimulation. Blood pressure and cardiac output are increased but a normal peripheral resistance is maintained. The effect on the cardiovascular system is mediated in one of three ways; first there is a general stimulation of the central vasomotor center; secondly a peripheral release of norepinephrine or some alteration of the granules in peripheral nerve endings which are thus prevented from picking up norepinephrine occurs; thirdly there is evidence that baroreceptor activity is decreased permitting the increased blood pressure and heart rate. The cardiovascular effects may possibly be due to a combination of all of these, and is not unlike that seen with some other drugs. It has been demonstrated that this pressor effect can be blocked by chlorpromazine (a central nervous system depressant and an adrenergic blocker), a ganglionic blocker or a Beta-adrenergic blocker. There is an initial cardiac depression in isolated hearts and in some animals. It is presently felt that this is an insignificant and probably seldom seen response in the human. Experimentally the initial cardiac depression is partially due to a direct depressant effect on the myocardium. The contractile tension has been decreased markedly in isolated dog hearts. With normal reflexes preserved in the animal this effect has so far been insignificant. It is suggested that in patients with impending heart failure, decreased calcium levels, those receiving drugs with myocardial depressing properties such as quinidine, procaine amide,



digitalis, curare or those who have any condition compromising their reflexability such as that produced by reserpine, Ketamine should be used with caution. This pressor response is not evident in animals under epidural anesthesia. In addition to the negative inotropic effect on the heart, Ketamine reduces the frequency of response of the baroreceptors and exerts an antiarrhythmic effect. Experimentally this cardiac effect is sufficient to reverse Halothane induced ventricular tachycardia. Clinically, one outstanding property of Ketamine is its ability to reverse Halothane induced arrhythmias. After inducing a Halothane anesthesia with Ketamine the changes of cardiovascular function known to occur with Halothane are absent for at least the next 10-20 minutes. This involves the cardiac stroke volume and the elastic and peripheral resistance. After more prolonged Halothane anesthesia the familiar depressive changes occur. The suggestion here is that Ketamine may be an excellent induction agent prior to Halothane anesthesia. Ketamine in higher doses is capable of uncoupling the excitation contraction process in isolated hearts. These findings suggest that if a dose severely depressant to the heart were administered, the heart would be in standstill for a period of time with a fairly normal EKG pattern. In addition to this direct effect upon the heart there is depression of the cardiovascular system with higher doses of Ketamine. There is a fall in peripheral resistance and the increase in heart rate is not as profound, the elevation of cardiac output is not as great as that resulting from smaller doses and the initial ventricular impulse decreases, indicating a decreased myocardial contractile force. Experimentally the cardiac output of the heart lung preparation was reduced by 50% when the blood level of Ketamine reached 1.6 milligrams per milliliter. This is roughly equivalent to a dose of 1.5 milligrams per kilogram. This depression is not seen in the intact animal even at 20 milligrams per kilogram probably because of indirect stimulatory influences which oppose it. Thus Ketamine has both a stimulatory and depressant effect upon the cardiovascular system. The stimulation predominates with smaller doses and manifests itself as an increased heart rate resulting in an elevation of cardiac output. As there is no change in peripheral resistance the increased output produces an elevated blood pressure. There is no change in the cardiac force of contraction. This positive inotropic

effect of Ketamine is not due to a direct action but rather due to the indirect effect of its generalized sympathetic stimulatory action. The experimental evidence supports this in that an intact nervous system is required and there is no pressor response in animals under epidural anesthesia. The mild cardiovascular depression observed appears only at higher doses and must override the stimulatory effect before it can manifest itself. Increased myocardial work could be to the detriment in individuals with a history of myocardial insufficiency. The cardiovascular response with Ketamine may also be related to the injection rate, however most studies have failed to prove this. The systolic pressure rises about 25% above the preoperative value. For this reason it is suggested that in those patients that will not tolerate a period of hypertension Ketamine is best avoided. Ketamine is ordinarily not given to a patient with a blood pressure greater than 160/100 millimeters Hg.

The other area that has received considerable study is that of the recovery period following Ketamine anesthesia. Emergence reactions have been reported following the use of all anesthetic agents. The incidence of post anesthetic excitement has been variously described in a range from 3% to 20%. A similar spread seems to exist in studies evaluating Ketamine. The most favorable statistics show 13.3% overall emergence phenomenon, 6.8% dreams, with 1.6% unpleasant dreams, 1.7% hallucinations, 2.9% confusion, 1.1% excitement or irrational behavior. Most studies report a somewhat higher incidence of emergence phenomenon. An incidence of 34% emergent upset (with 16% severe) in patients classified as "awake" upon leaving the operating room 36% (22% severe) in patients definitely not awake has been reported. Most patients respond within 10-15 minutes of the conclusion of anesthesia although it may take 3-4 hours before they are able to successfully walk. One of the major advantages in the use of Ketamine is that burn patients can eat up to 2 hours before surgery and are able to eat the next meal following. The reported incidence of nausea and vomiting is somewhat higher with Ketamine than following Halothane anesthesia. The emergent phenomenon occur more commonly in females and rarely in pediatric patients. Those people with an increased incidence of emergent reactions are those that fit the following criteria:

a.) Short Procedure



- b.) Good to fair anesthetic risk
- c.) No premedication
- d.) Surgery on the respiratory tract or the the female genital tract
- e.) Dosage over 2.9 milligrams per kilogram
- f.) Female patients

In a recent series, 12% of patients who received Ketamine following atropine premedication were terrified of a repetition of the same anesthetic. The emergent reaction usually responds to a small intravenous dose of Valium or a short acting barbiturate. Large doses of these agents will often reinduce anesthesia and or cause respiratory depression. The incidence of emergent reactions also seems to be less if the patient receives nitrous-oxide and oxygen as a supplement during anesthesia. Ketamine has been reported as a short acting anesthetic agent and has been suggested as the agent for outpatient surgery. However, the recovery time is somewhat variable and it is difficult to identify those patients who will be awake and talking within fifteen or twenty minutes and able to eat, drink and walk within two hours. There are some who remain sleepy, confused and nauseated for six, eight, and twelve hours.

Ketamine is rapidly absorbed following parenteral administration. It is rapidly distributed into body tissues with relatively high concentrations in body fat, liver, lung and brain. Lower concentrations are found in the heart, skeletal muscle and plasma. Placental transfer of the drug does occur in pregnant dogs and monkeys. No significant degree of binding to serum albumin has been reported. From 85-95% of the dose has been recovered in the urine in the form of degradation products in rats, dogs and monkeys. In human subjects 1 milligram per pound given intravenously has resulted in recovery of 91% of the dose in the urine and 3% in the feces. Peak plasma levels average about .75 micrograms per milliliter and cerebrospinal fluid levels about .2 micrograms per milliliter one hour after injection. Ketamine undergoes an N-demethylation and hydroxylation of the cyclohexanone ring with the formation of water soluble conjugates which are excreted in the urine. Further oxidation also occurs with the formation of a cyclohexanone derivative. The unconjugated demethylated metabolite was found to be less than 1/6 as potent as Ketamine and the unconjugated demethyl cyclohexanone derivative

was found to be 1/10 as potent. Repeated Ketamine administration to animals did not produce any detectable increase in microsomal enzyme activity.

Cerebral oxygen utilization is very slightly diminished and not to a degree that is statistically significant. Cerebral circulation also decreases slightly. As the injection of Ketamine is characterized by a sympathomimetic action of the noradrenaline type producing hypertension, tachycardia, and a hyperglycemic effect, it may be contraindicated in patients with hypertension, heart disease and diabetes. Ketamine may also be contraindicated in anesthesia for angiography because of vascular constriction which might produce absence of visualization of the peripheral branches. The drug may also be contraindicated in cases of systematic hypertension, in hyperthyroidism, in coronary disease, in patients with a history of seizures, and in patients with frank emotional instability or psychoses or those suspected as such.

Ketamine has caused a mild but statistically significant increase in intraocular pressure. The elevation of intraocular tension does not correlate with changes in arterial blood pressure. Nor is the degree of elevation of intraocular tension related to the depth of anesthesia or the amount of Ketamine administered. In patients with borderline glaucoma the intraocular tension in the awake state is often slightly lower than with Ketamine. There appears to be no significant difference in intraocular pressures with respect to various age groups.

Ketamine has been given repeatedly to patients at various burn centers. Some patients have had as many as 40 anesthetics and many patients have had between 10 and 30 anesthetics given on successive days or every other day. None of these patients had any adverse effect on blood or bone marrow, no behavioral problems arose and no tissue reaction at the site of injection occurred. Tachyphylaxis did not occur.

In Sacred Heart Hospital we have been using Ketamine since June, 1970. Our first series consisted of 141 patients. The following tables summarize our experiences:

TABLE I—AGE GROUPS

Age	Patients	Age	Patients
2 or less	4	21-30	16
3-5	19	31-40	5
6-10	28	41-50	7
11-15	16	51-60	11
16-20	14	61-70	14
		70 or older	4



TABLE II—ANESTHESIA IN KETAMINE  
STUDY GROUP

Ketamine only	110
Ketamine + N20/O2 Analgesia	24
Ketamine + General Anesthesia	7

TABLE III—TYPE OF SURGERY

Operation	Patients
Eye	50
Hernia	1
GU-GYN	17
Closed Reductions	11
Rectal	2
Skin	16
Extremities	6
Unidentified	3

TABLE IV—LENGTH OF SURGERY

Time	Patients
15 Min. or less	28
16-30 Mins.	42
31-60 Mins.	39
60-120 Mins.	16
120 Mins. or more	2

TABLE V—DOSAGE

Time	Patients	Mg./lb.	Mg./lb./Min.
15 Mins. or less	28	.580-4.80	.010-.314
16-30 Mins.	42	.625-4.95	.026-.165
31-60 Mins.	39	.725-4.75	.013-.116
60-120 Mins.	16	.622-14.05	.006-.203
120 + Mins.	2	(5.25)	(.081)
		.95-5.67	.04-.00465

Ninety seven patients who received Ketamine only, had no complication or problems following the anesthesia.

In those patients receiving Ketamine only thirteen patients had some type of emergent reaction. The most common was bad dreams, occurring in five patients, (four females, one male). Two female patients were disoriented upon awakening and two patients (one male, one female) underwent prolonged recovery time. This is defined as more than six hours. One patient each experienced trembling, rigidity and singing, all males. One 65 year old female experienced profound hypertension to the extent that she was treated with Arfonad in the recovery room to lower her blood pressure.

The Second Group of patients had Ketamine with nitrous oxide and oxygen. There were 17 patients in this group who experienced no complications or problems following their anesthesia. Four patients experienced dreams upon awakening, (three females and one male); three patients exhibited psychomotor, irrational behavior or agitation. (two males, one female).

The Third Group of Patients had Ketamine plus general anesthesia. Two of these patients

had nitrous oxide, oxygen and a muscle relaxant and one of these experienced hallucinations upon awakening. Three patients had nitrous oxide/oxygen and Fluothane with no complications or postoperative problems. One patient had nitrous oxide, oxygen and Penthrane with an uneventful postoperative course. One patient received Ketamine following a spinal anesthetic with an insufficient level. This patient experienced some rigidity upon recovery. Those patients who received a supplement or a general anesthetic were generally those making excessive or troublesome movements of the extremities. In a few cases Ketamine was used as the induction agent and a general anesthetic was planned.

The dosage was quite variable but in general it seemed to support the literature. The recommended dosage for induction is 2 milligrams per pound. It has been our practice to start with 1 milligram per pound. Our total dosage in mg. per pound given throughout the procedure range from .450 to 14.05 mg. per pound. The patient who received 14.05 mg. per pound perhaps represents an unusual case and if she is removed from the series our highest dosage would be 5.67 mg. per pound which is more in keeping with the reported literature. It should be pointed out that the cardiac uncoupling process referred to earlier has occurred in the laboratory at 7.5 mg. per pound total dosage. Therefore the manufacturer's claim that it offers a very wide margin of safety and that overdosage is practically impossible perhaps needs to be taken with a grain of salt. The dosage given per unit time was also calculated and ranged from .006 to .355. mg. per pound per minute. The literature reports that the average dose on a time basis is .075 mg. per pound per minute. In grouping our patients by age groups 23 months to 15 years, 15-40 years, 40-87 years, we found a similar dosage range obtaining in each group. The amount of Ketamine given, that is, the mg. per pound, showed little or no change with increasing time and as might be suspected the mg. per pound per minute underwent a slight decrease with increasing time of surgery.

Since the initial series we have used Ketamine in approximately 100 additional patients. Our results in this series were somewhat improved. We began informing patients that they might have some unusual dreams upon awakening. This suggestion has worked very well. Those that do dream now usually report them



as "wierd" or "wild" experiences, but not particularly unpleasant. In our later series we have had no one request not to have the agent again. On the contrary, several have reported their experience as quite pleasant and were quite pleased with its effects. As in the first series we have had several repeaters. We are using Ketamine more often as an induction agent for children and poor risk patients.

In our institution Ketamine has assumed an important place in our anesthetic armamentarium. We do all eye surgery, children's cystoscopic exams, and most closed reductions with the agent. We have found the drug very practical for patients with full or suspected full stomachs. We frequently use it as an induction agent for debilitated patients to avoid any drop in blood pressure. It is also very useful for debridements and dressing changes. We stress the point that it is not necessarily a short acting anesthetic and on occasion the patient may not go home the same day. We do require that the patient be in overnight for elective surgery. Equipment must be on hand for ventilation, muscle relaxation and, perhaps, general anesthesia. At this point we cannot condone its use in the office and we are only beginning to evaluate its usage in outpatient and emergency room anesthesia. The drug certainly represents a unique and important milestone in anesthetic practice.

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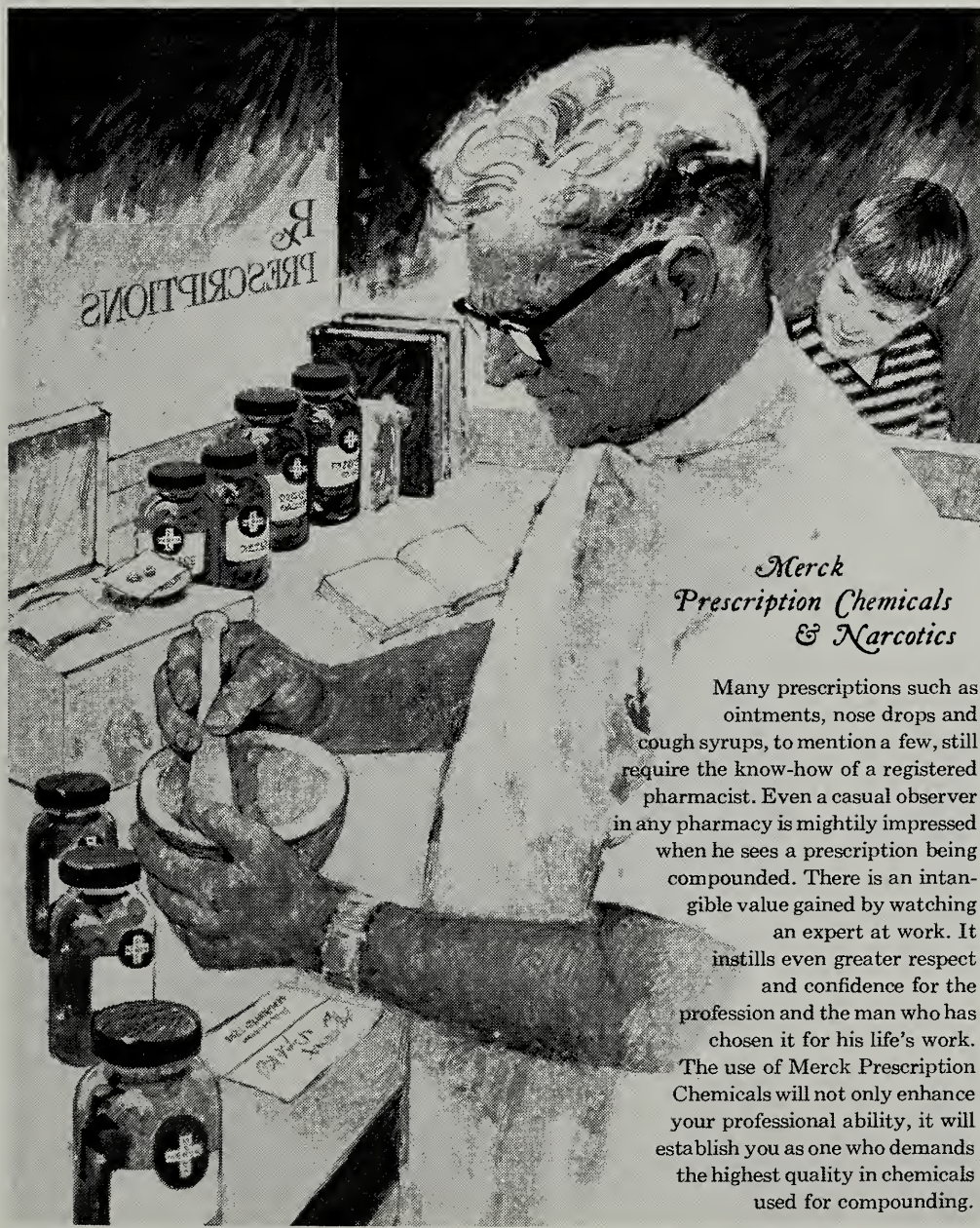
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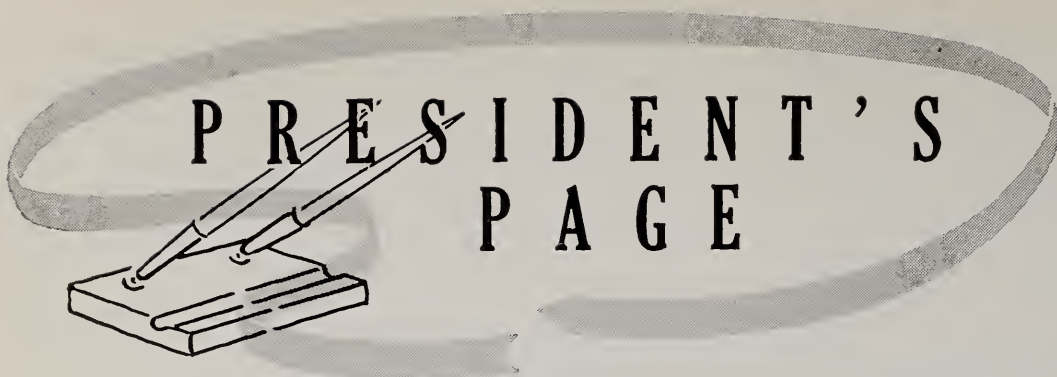
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## President's Page

By now we have heard a great deal about peer review, the new concept of professional evaluation of each other's performance in the interests of our patients. Peer review is becoming more widely accepted with each passing month and is spreading rapidly throughout the field of medicine.

As some of you undoubtedly know, the 120th annual convention of the American Medical Association spent considerable time examining this new field. One upshot was action in the House of Delegates setting out three definitions having to do with peer review. Here they are:

Peer Review: "Evaluation by practicing physicians of the quality and efficiency of services rendered or performed by other practicing physicians. Peer review is the all-inclusive term for medical review efforts."

Medical Practice Analysis: "A function of the medical society or other organization authorized by the medical society, designed to coordinate all peer review efforts in a community. Medical practice analysis focuses on the development and application of criteria for optimal medical care, and evaluates the individual and collective quality, volume and cost of medical care, wherever provided."

Claims Review: "Peer evaluation and adjudication of claims questions referred for peer review by any party with a valid interest in the case."

The House of Delegates resolved in this connection "that the AMA and its constituent state associations continue to stress that peer review shall be considered a professional function and as such shall be carried out by physicians or under the sponsorship of the county and state medical societies."

I think we have been given a rather clear directive here to examine peer review in our local and district societies and install it as a permanent function in our own best interests as individuals as well as those of the profession as a whole.

I believe that continuing peer review will, as the House of Delegates suggests, serve the quality and efficiency of the services we provide. As your president, I strongly suggest that those areas which have not instituted it by now consider doing so soon.

G. Robert Bartron, M.D.  
President





## RADIOLOGIC CASE PRESENTATION No. 8

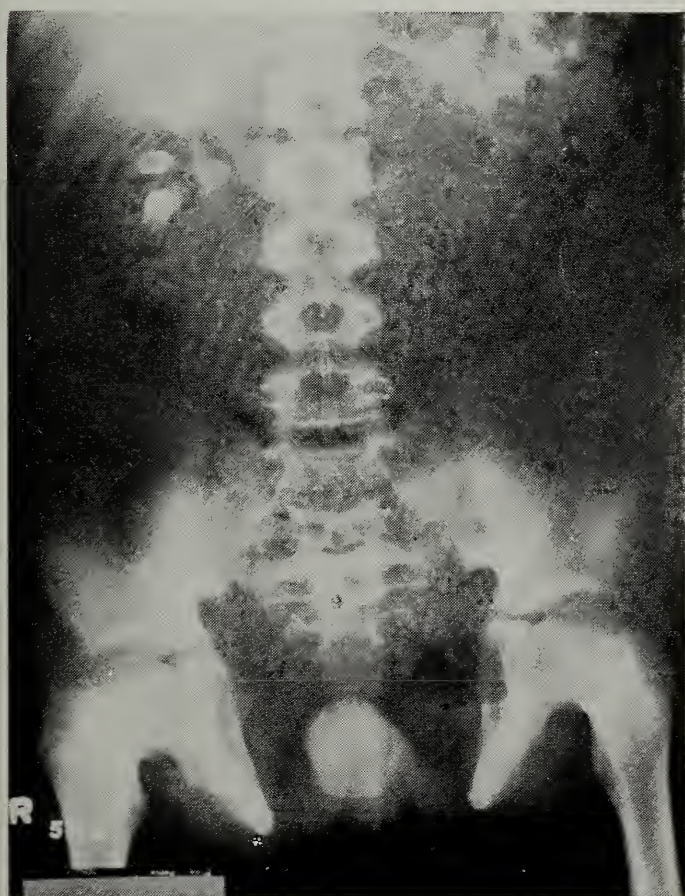
Martin Frank Petereit, M.D.\*

Stop! Before reading any further, study the roentgenograms in Figs. 1 and 2. What is the most obvious finding? What clinical significance does it have? What are the differential diagnostic considerations? What may this be associated with?

### Case Presentation

This case did not present any significant diagnostic problem, but it does show some interesting roentgenographic findings. This patient had congenital exstrophy of the urinary bladder. The corrective surgery of this abnormality is beyond the scope of this discussion. However, at a very early age, ureterosigmoidostomy procedures were performed.

Figure 1



Five min. intravenous urogram on an 11-year-old male.

\* Medical X-Ray Center,  
Sioux Falls, South Dakota

The most striking finding in Fig. 1 is the diastasis of the symphysis pubis. The distance between the pubic bones is 8.5 cm. The left renal collecting system does not visualize. An autonephrectomy had been present on this side for years. This implies complete loss of renal function due to complete destruction of renal parenchyma and obstruction of the drainage system. The right kidney functions well, but shows compensatory hypertrophy (measures 13.0 cm).

Figure 2



Intravenous urogram 6 years later.

Six years later (Fig. 2), the right kidney continues to function well (now measures 15.5 cm). The distance between the pubic bones is 10.0 cm. Note also an increase in generalized bony growth.



Clinically, this patient has been doing quite well.

## Discussion

The roentgenographic finding of anterior separation of the pubic bones may be a significant clue to the presence of congenital anomalies of the urinary tract.<sup>3</sup> It is most often associated with exstrophy of the urinary bladder. It is next most commonly seen with epispadias.<sup>4</sup> It has also been found in association with imperforate anus, diastasis of the rectus abdominis muscles, deficiencies in the abdominal and pelvic musculature and hypospadias.<sup>1</sup> Diastasis of the symphysis pubis has occurred without other anomalies, but this is very rare.<sup>1, 3</sup>

The normal distance between the pubic bones is 3 to 8 mm. This may increase another 10 mm during pregnancy, but this returns to normal by the third month post-partum.<sup>3</sup>

Muecke and Curranino<sup>3</sup> reviewed 89 cases of symphyseal separation. Fifty-two had classical exstrophy of the bladder with separations of 30 to 170 mm. Six had variants of bladder exstrophy (3 with cloacal exstrophy, 2 with superior vesical fissure and 1 with duplicated exstrophy). Therefore, 58 patients (66%) were in the bladder exstrophy group. Twenty-one patients (24%) had epispadias without exstrophy with separations of 12 to 35 mm. The amount of separation seemed to correlate fairly well with the degree of the epispadias. The remaining 10% had unusual anomalies: anorectal anomalies, urethral duplication, pseudo-exstrophy, diphallus and congenital hydrocolpos.

Epispadias is considered a precursor to vesical exstrophy. It occurs once in 30,000 births. The male to female ratio is 3:1. In females, the sphincter is involved 90% of the time with resulting incontinence. The female types are the clitoric, subsymphyseal and complete. In males, glandular, penile and complete forms exist. The most common type is the glandular with the urethra opening on the dorsum of the phallus behind the glans. In the penile variety, the meatus may be found at any point along the shaft; most often, it occurs at the base of the penis. Incontinence is the rule in the complete form, since the sphincteric mechanism is inadequately developed. Due to the incontinence, the bladder capacity is small since it never had to stretch to accommodate a large volume of urine.<sup>4</sup>

Weiss et al.<sup>4</sup> reviewed 50 cases of epispadias.

Only 5 males with glandular or penile forms had no pubic separation. Patients with complete forms had marked symphyseal separation.

Thus, pubic separation appears to be a constant feature of bladder exstrophy and of many related deformities. In epispadias, the deformity tends to be less severe than in bladder exstrophy. Diastasis recti (separation of the recti muscles), in the lower abdomen, is a constant feature of this bony anomaly and is proportional to the degree of separation of the pubic bones.<sup>3</sup>

The kidneys and ureters may appear normal or they may show evidence of obstruction or infection.<sup>2</sup>

The abnormal anatomy of a widened pubic symphysis consists of: (1) outward rotation of the innominate bones, (2) eversion or outward rotation of the pubic bone at its junction with the ischium and ilium, and (3) lateral separation of the innominate bones inferiorly with the fulcrum at the iliosacral joint. Various degrees of this are seen in the most severe cases. This accounts for an increased distance between the hips and the patient may have a waddling gait.<sup>3</sup>

## Differential Diagnosis

A widened pubic symphysis may be acquired secondary to trauma, pregnancy and delivery, infection or osteolytic neoplasia. The most important congenital problem to be differentiated is cleidocranial dysostosis. The widening here is more apparent than real. It is due to delayed cartilage mineralization rather than to a true widening of the pubic symphysis.<sup>3, 4</sup>

## Conclusion

A case of congenital exstrophy of the urinary bladder, associated with severe diastasis of the symphysis pubis, in a young male is presented. The finding of symphyseal separation may be a significant clue to the presence of congenital anomalies of the urinary tract. It is most often associated with bladder exstrophy and epispadias, in that order.

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# ECONOMICS



## HEALTH CARE COST INCREASES — NATIONALLY AND SOUTH DAKOTA

J. B. Gregg, M.D.

In 1825 Samuel Thomson wrote "our regular physicians; for they will hardly look at a person without making them pay two or there dollars". (mis-spelling is in the original text) In 1968 the median charge for an office call, the basic unit of medical practice, by physicians in South Dakota was \$3.33/100, a 00.9009% increase in 146 years. In 1825 the physician was not well trained, (many had only an apprenticeship of 2-3 years after grammar school), did only a few fundamental surgical procedures, had to rely upon a very limited armamentarium of drugs, and had no ancillary para-medical services. Today the average M.D. spends in training after graduation from high school until opening practice (often with two additional years contributed to the armed forces) between 8 and 15 years. Depending upon his background he does such complex procedures as cardiac catheterizations, craniotomies, stapedectomies, pulmonary surgery, and orthopedic procedures, many of which techniques have been in existence for 20 years or less. These health services have assisted many patients to increased longevity, greater comfort, and higher productivity as citizens, but the intricate procedures need hospitalization and ancillary services which have contributed tremendously to the cost of such care.

Physicians in the U.S. and South Dakota are constantly being vilified from all sides regarding the cost of health care. Many S. D. doctors are asking themselves individually and for the state collectively if the scattergun broadsides fired at the medical community of the U.S. nationwide are justified. A case recently reported in Medical Economics has brought this

question into sharp focus and reflects upon the entire California medical community in regard to high medical fees, fear of malpractice litigation, and ?? over utilization of hospital, laboratory, and other facilities. The California case involved a total cost of \$420.90 to get a piece of popcorn out of a child's ear. At least some of the costs in this case were probably defense mechanisms on the part of the California M.D.'s to prevent possible grounds for litigation. Yet, these self-protective maneuvers added significantly to the cost of treatment to the parents. After reading Medical Economics the question was asked by South Dakota physicians as to what would be the cost of a similar problem in this state. Fortuitously, an almost exact duplicate circumstance occurred in Sioux Falls within the past month and the happening and the cost of treatment were available for comparison. (see below) In this instance, as in California, the child put a popcorn kernel into his ear. The family had attempted without result to remove it by irrigation with soda water. The family physician sent the child to a local hospital emergency room that same evening where the intern attempted to remove the foreign body, unsuccessfully. Because he had eaten, the child was admitted to the hospital over night and then the seed was removed without difficulty by an otologist under light general anesthesia the following morning. After a brief rest he returned home the same day to be followed in the physician's office. In the Sioux Falls case the minimal required hospital admission laboratory work was obtained, physical examination of the child was performed by the intern who found no need for a chest X-Ray, the



anesthesia was administered efficiently by well trained nurse anesthetists, and the child's parents received only statements for services successfully rendered by the physicians involved in the case. The surgeon's fee was in accordance with the SDSMA Relative Value Study and Procedure Nomenclature 1965, #5931 Otcotscopy with removal of foreign body in external auditory canal . . . . . \*2.0 units—\* (c) When such a procedure requires hospital admission an additional two (2) units are to be added to the listed value to cover the additional services required.

A review of the information above and the breakdown of the total costs for treatments in these two instances reveals certain truisms:

1) Removal of the foreign object in both cases could have been done in the physicians' offices but the danger of injury to the ear would have been very definitely increased. The need for highest quality medical care necessitated procedures requiring expensive health care.

2) The hospital costs in both instances were the largest factors contributing to the cost of care. The hospital costs were definitely lower in South Dakota than in California. Obviously a number of different factors were influential in this cost differential.

3) Services to the patient contribute significantly to the greater success and ease of treatment and to the better results.

4) John Doe, average citizen, is now demanding that he receive first quality health care. If this is his desire, he is going to have to reconcile himself to the fact that if he gets what he wants he is going to have to pay for the care in some way.

5) It is an unfortunate paradox that the physicians in South Dakota are caught between the tenet of providing first quality health care and an increasing pressure to provide complete health care coverage at minimal cost to the subscriber through HFO. Sooner or later there will have to be a compromise.

HOSPITAL CHARGES

	California	Sioux Falls
Room and Board	\$106.00 (2 days)	\$ 38.00 (1 day)
Chest X-Ray	17.50	none
Lab tests	36.00	9.00
Medications from pharmacy	2.76	13.90 (includes Rx to home)
Anesthetic	21.00	42.00 (Includes Anesthetist's Services)
Use of O. R.	75.00	77.00 (Includes recovery rm.)
Emergency Room	none	8.00 (Includes Intern's Services)
Tax	none	1.30
Telephone calls	.65	none
Total hospital charges	\$258.90	\$189.20
PHYSICIAN'S CHARGES		
G. P. office visit	\$ 11.00	none
Office call and exam		
ENT group	20.00	none
Surgeon's fee	80.00	\$ 20.00
Anesthesiologist's fee	51.00	none
Total M.D. Charges	\$162.00	\$ 20.00
Total Cost	\$420.90	\$209.20

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Governor Richard Kneip has appointed **George Knabe, Jr., M.D.**, Vermillion, and **G. Robert Bartron, M.D.**, Watertown, to the Midwestern Board for Medical and Allied Health Care.

\* \* \*

**James H. Chalmers, M.D.**, has been appointed chief of staff at the Veterans Administration Center in Sioux Falls. Dr. Chalmers received his M.D. degree from the University of Minnesota in 1942 and completed his internship at the Jersey City Medical Center, Jersey City, New Jersey. He completed a residency in internal medicine in 1949 and was assigned to the Veterans Administration Hospital in Minneapolis prior to coming to Sioux Falls. Dr. Chalmers replaces Dr. V. J. Soukup who transferred to the Veterans Administration hospital in Fayetteville, Arkansas.

\* \* \*

The Whetstone Valley District Medical Society met in Rosholt on Wednesday, August 25, with twenty-one physicians and wives present to hear **Dr. G. Robert Bartron**, state president, discuss current programs of the State Medical Association.

\* \* \*

**Thomas Bunker, M.D.**, Aberdeen, was reappointed to the Board of Hearing Aid Dispensers.

**Dr. Raymond Lynn**, Professor of Microbiology at the University of South Dakota School of Medicine, has been appointed to the State Board of Examiners in the Basic Sciences.

\* \* \*

Effective September 1, 1971, for the first time in history, the Board of Medical Examiners of Florida may issue licenses by endorsement to practice medicine and surgery in Florida. An amendment to the Medical Practice Act of Florida, enacted by the 1971 legislature allows issuance of licenses by endorsement to those M.D.'s who have been certified by the National Board of Medical Examiners

or the Federation Licensure Examination (FLEX) within a period of eight (8) years preceding the date of application for licensure by endorsement. Since the effective date is September 1, 1971, this means that an M.D. must have been certified by the National Board of Medical Examiners since September 1, 1963, in order to initially be eligible for licensure by endorsement. As far as other state licensure examinations are concerned, this amendment only applies to those states who use the Federation Licensure Examination (FLEX) as their licensure examination.

In the case of foreign medical graduates, this does not eliminate the requirement that the M.D. have papers of first intention of citizenship and a minimum of one year's residency in the United States and the Educational Council for Foreign Medical Graduates Certificate of proficiency. A very important feature of the amendment is the provision that a physician who receives a license by endorsement in Florida must practice in the state within a period of three years for a minimum period of one year. If he does not do this the license will become null and void. Service in the armed forces is exempt during these three years, but internship or residency time is not exempt.

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The American Board of Family Practice announces that it will give its next examination for certification in various centers throughout the United States. The examination will be over a two-day period on April 29-30, 1972. Information regarding the examination can be obtained by writing:

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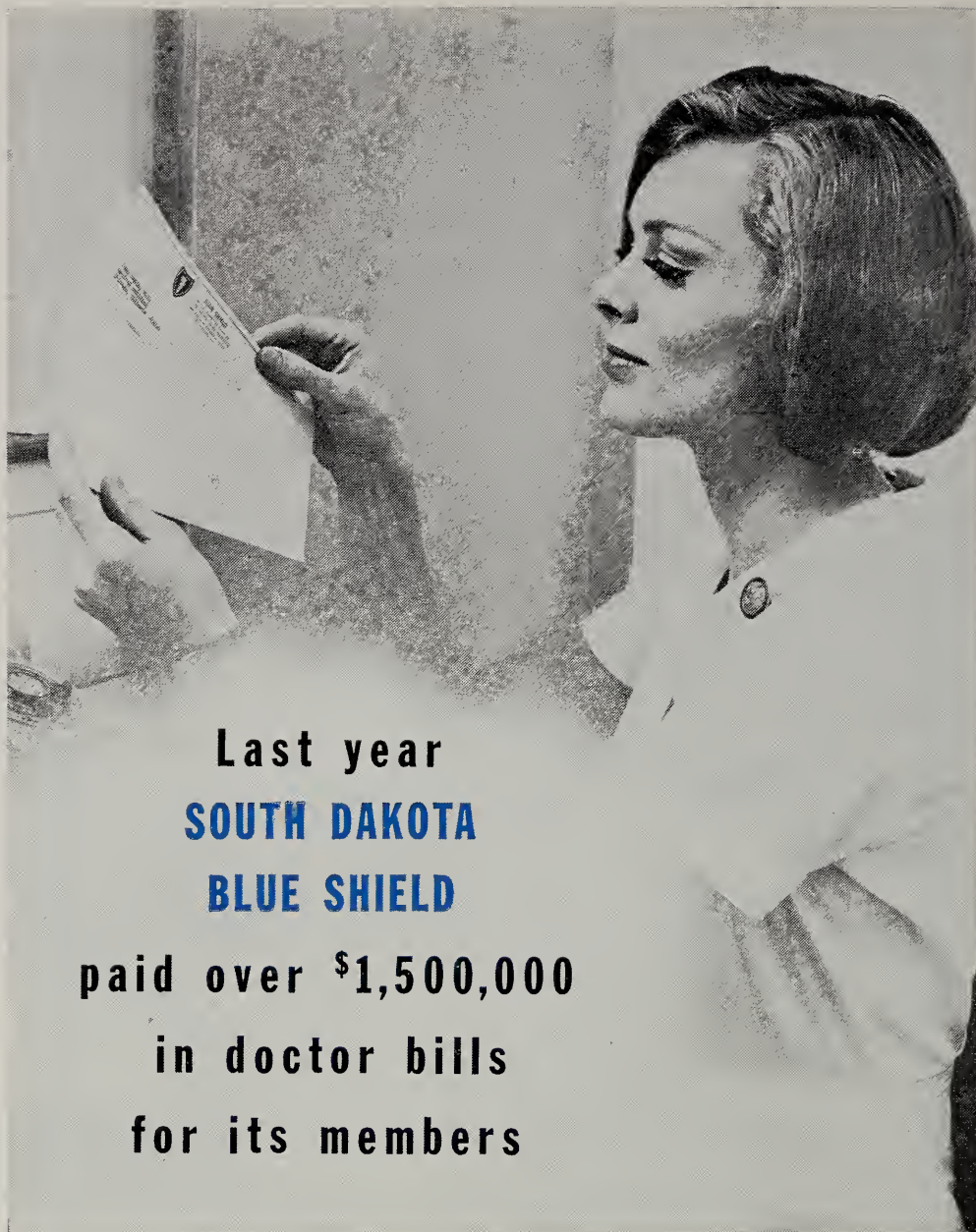
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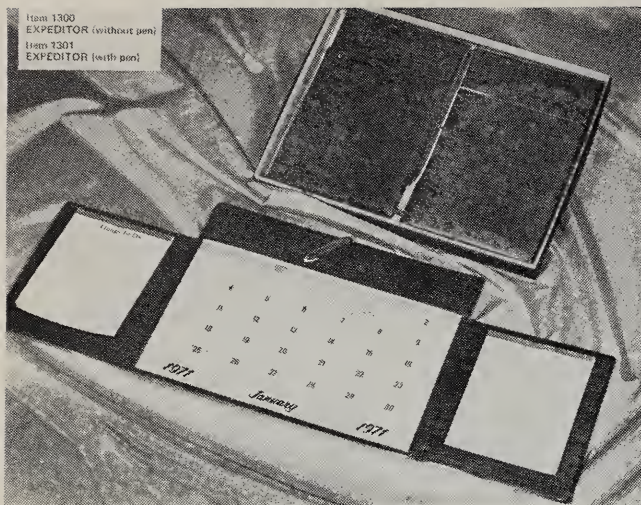
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## MEETING ANNOUNCEMENT

The Nebraska Society of Clinical Hypnosis plans to have a two day course in Medical and Dental Hypnosis, including Group I (beginners) and Group II (Advanced) on November 13 and 14, 1971, presented by Kay F. Thompson, D.D.S. and Robert E. Pearson, M.D. It will be held at the Holiday Inn, 3321 South 72nd Street, Omaha, Nebraska. Application forms obtainable from Nebraska Society of Clinical Hypnosis, 6540 Florence Blvd., Omaha, Nebraska 68112.

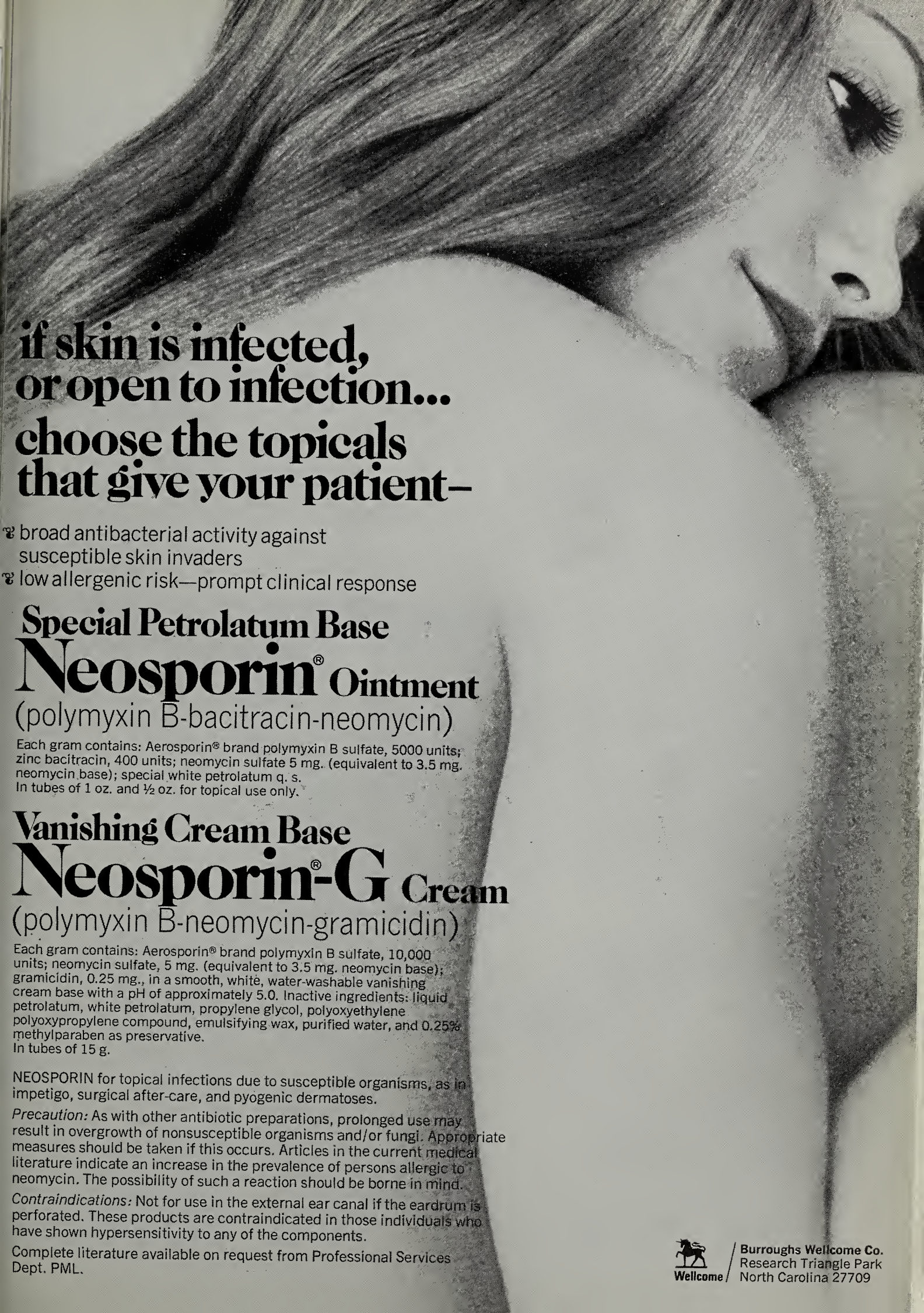
## BLUE SHIELD URGES UTILIZATION CURBS

The chairman of the National Association of Blue Shield Plans has asked physicians to help contain the cost of health care, according to an article in the July 19 issue of AMERICAN MEDICAL NEWS. Ira C. Layton, M.D., said statistics show combined utilization of outpatient x-ray and laboratory services under the Federal Employee Program has increased 100 percent over a three year period. "Today, the voluntary system of delivery of health care in America is under severe attack and criticism," Dr. Layton said. "High utilization and costs are the two items that are repeatedly singled out in arguments for a compulsory, nationalized system. We can, and must do something to reverse this trend."

## PEER REVIEW IN DENTISTRY

The necessity for establishing dental review procedures was emphasized recently by the chairman of the joint dental care committee of the California dental associations. "Strong, honest peer review is no longer optional, it is mandatory if we wish to have control of our future," Sidney R. Francis, Jr., DDS, of South San Francisco, said. He noted that the review system "can only be good if all participants realize that it is for their protection. It must be fair to four separate entities: the patient, the dentist, the carrier, and the dental profession."





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#### PROJECTIONS ON M.D. NEEDS

The United States will need 450,000 physicians by 1980, according to the Department of Labor estimates. This figure represents a net increase of 116,000 doctors over the total 334,000 reported by AMA at the end of 1970. Current AMA predictions show there will be an average increase of 10,000 physicians annually through the 70s.

#### SYMPTOMS OF SUICIDE

What type of person takes his own life? While no one has the complete answer, studies indicate that some of the factors that trigger suicide include one or more of the following: poor health, growing old, a divorce, unemployment, and death of a spouse. The person who is considering suicide often reveals his intentions by behavioral clues like intense depression, anxiety or restlessness, according to Dr. Herbert C. Modlin, a staff psychiatrist at the Menninger Foundation. Sudden tranquility in a normally anxious person or the existence of symptoms like crying spells, feelings of isolation, and threats of suicide also may signal suicidal feelings, he said.



## MD INCOME REPORT

Physicians averaged \$35,510 in net income in 1968, after expenses but before taxes, according to a survey conducted by the American Medical Association. A random sampling of 3,420 physicians indicated that in 1969 they worked an average of 51.3 hours a week and charged an average of \$11.84 for the initial office visit. The 122-page volume, "Reference Data on the Profile of Medical Practice," notes that net income appears to vary more by specialty than by geographic area. Radiologists and surgeons reported the highest average incomes in 1968, \$46,423 and \$40,654 respectively. Pediatricians had the lowest average income, \$30,718.

## HEPATITIS ON RISE

Incidence of hepatitis in the United States continues to mount. From July 1, 1969, through June 30, 1970, some 59,431 cases of hepatitis were reported to public health authorities. Of

this figure, more than 53,000 constitute infectious hepatitis and about 6,400 serum hepatitis. These statistics actually understate the actual incidence of this liver disease since many persons who contract a mild form may not even seek medical treatment. The outlook for the next 12 months indicates the number of cases might reach an all-time high of 70,000.

## HYPNOSIS IN DENTISTRY

Hypnosis is being used successfully to help problem denture wearers overcome gagging, according to a report of a Buffalo dental scientist. Writing in DENTAL ABSTRACTS published by the American Dental Association, Dr. Philip Ament said through the use of hypnosis, patients were able to adapt to the dentures with a minimum of emotional difficulty. The results tend to be reinforced by increased self-esteem and improved interpersonal relations. He pointed out that some patients tend to gag before an impression tray is inserted in the mouth or at the sight of a tongue depressor.

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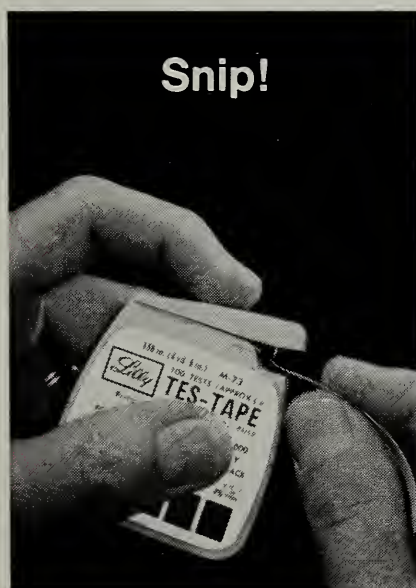
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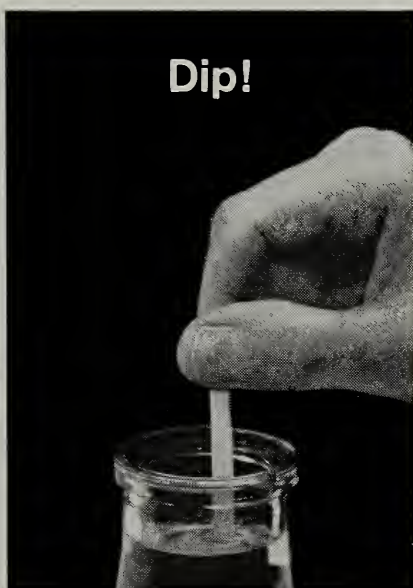
# MEDICINE

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**MEDICAL EDUCATION ISSUE**



# Patients fell asleep quickly

Dalmane (flurazepam HCl) 30 mg reduced awake time—both before and after falling asleep - by fifty percent of pretreatment values in patients with insomnia.<sup>1,2</sup>

Two sleep laboratory studies recently confirmed findings of earlier studies of this type, namely, that Dalmane 30 mg was effective in patients who had trouble falling asleep, staying asleep or both. One 30-mg capsule of Dalmane usually induced sleep within 22 minutes, decreased the number of awakenings and the wake time after the onset of sleep, and provided 7 to 8 hours of sleep without need to repeat dosage during the night.

These studies utilized identical protocols and included eight insomniac patients. Sleep laboratory measurements in a limited number of patients are derived from all-night electroencephalographic, electro-oculographic and electromyographic tracings. Unlike traditional methods of evaluation, they are quantitative, reproducible and projectable to large numbers of subjects.

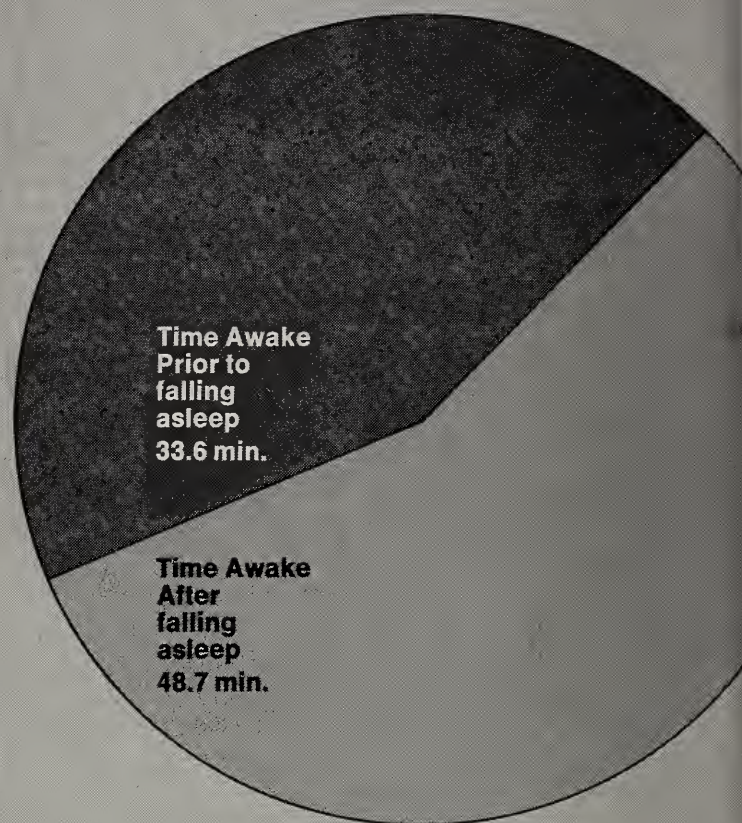
Results shown represent average values in all subjects for the three consecutive nights of placebo administration prior to Dalmane therapy and the seven consecutive nights on Dalmane 30 mg.

Dalmane is also relatively safe, as reported in clinical studies. Instances of morning "hang-over" have been relatively infrequent; paradoxical reactions (excitement) and hypotension have been rare. Dizziness, drowsiness, lightheadedness and the like were the side effects noted most frequently, particularly in the elderly or debilitated. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

**References:** 1. Frost, J. D., Jr.: "A System for Automatically Analyzing Sleep," Scientific Exhibit presented at Clinical Convention, A.M.A., Boston, Nov. 29-Dec. 2, 1970, and Aerospace M.A., Houston, April 26-29, 1971.

2. Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley, N.J.

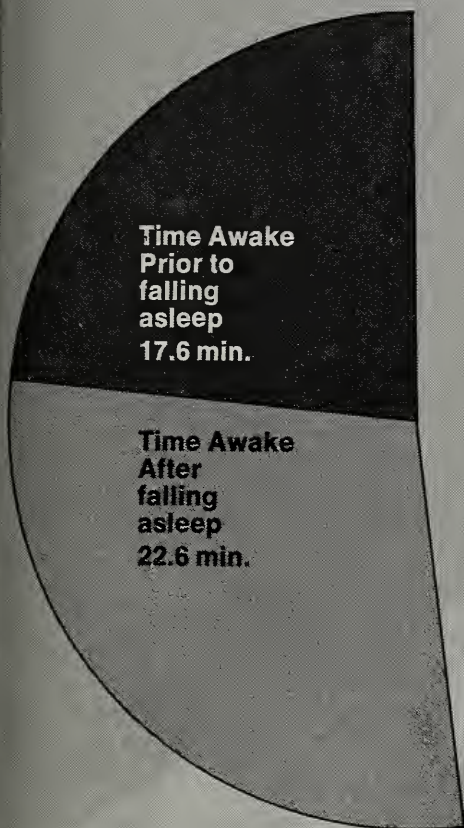
Before  
Dalmane  
(flurazepam HCl)





# and slept through the night

On  
Dalmane  
(flurazepam HCl)



average sleep laboratory measurements in cited studies

Parameter	Before Dalmane	On Dalmane
Time required to fall asleep	33.6 min.	17.6 min.
Time awake after onset of sleep	48.7 min.	22.6 min.
Number of wakeful periods after onset of sleep	12.2	8.4
Total sleep time	420.0 min.	447.5 min.
Percentage of sleep	88.6	94.5

Clinical effectiveness as  
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(flurazepam HCl)

30-mg capsule h.s.—usual adult dosage.  
15-mg capsule h.s.—initial dosage for  
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**Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:**

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



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**The South Dakota  
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**CONTENTS**

Volume XXIV

November 1971

Number 11

Report on Health Science Education South Dakota . . 13  
Robert C. Hardin, M.D.; Kenneth E. Penrod, Ph.D.;  
Raymond Pruitt, M.D.

A Critique of The Hardin Committee Report on  
Health Science Education - South Dakota . . . 29  
Henry M. Parrish, M.D., Dr. P.H.

President's Page . . . . . 37

Editorial: Medical Education in South Dakota . . . 45

This Is Your Medical Association . . . . . 47



"To be or not to be", that is the question. Whether 'tis better to preserve our medical school, or let it pass into the dusty archives of "What Was in South Dakota".

This question has been discussed and re-discussed and at last a report has been formulated that can provide direction to the Board of Regents, the Legislature, the Medical Association and the people of our state. **It is an Important Report.**

**So important that it should be read by all concerned with Medical Education and Medical Care in South Dakota.**

Richard C. Erickson  
Executive Secretary  
South Dakota State Medical Association

# REPORT ON HEALTH SCIENCE EDUCATION SOUTH DAKOTA

Robert C. Hardin, M.D.  
Kenneth E. Penrod, Ph.D.  
Raymond Pruitt, M.D.

This study was conducted for the Regents of Education of the State of South Dakota and comprises an evaluation of present programs and recommendations for future development. Conversation with the Regents in formal session revealed the following concerns:

**1. The number of physicians in South Dakota:**

South Dakota has a relatively low ratio of physicians to population. In 1966 there were 1589 people per physician in South Dakota which ranked 50th in that respect among all the states.<sup>1</sup> In addition South Dakota shares certain demographic characteristics of physician distribution with the other population stable, rural states. Although the median age of all physicians in the state shows a decline over the years, that of family doctors in rural communities is increasing. Along with the shift of manpower to cities and larger towns there is a shift to specialization.<sup>1</sup> This is a familiar pattern. There is no real decline in the number of physicians in South Dakota, but as the older general practitioner in the rural community dies or retires, he is replaced by a young specialist in the city. The real question faced by the Regents is, "What role can higher education play in the production and distribution of physicians?"

**2. The future of the two-year medical school:**

The Regents wonder if the concept of a two-year school of basic medical science is any long-

er a viable one. This arises from the realization that the "four-year" medical schools to which their students must go to complete their education are changing. Trends are toward shortening the basic science courses, beginning clinical training in the first year (and more in the second) and freeing the fourth year for elective work or eliminating it. Such changes make articulation of the curricula of the "two-year school" and the "four-year school" difficult and, perhaps, in the future, impossible.

**3. Change to a "four-year school":**

Probably, this should be stated more exactly as change to an M.D. degree granting program. Present trends indicate that it may be possible to grant the M.D. in less than four years. The question is really a double one: First, if the concept of the school of basic medical science proves not viable, should the Regents proceed immediately to a degree granting program? Second, even though viable, should it be replaced with the degree program?

**4. Adequacy of level of funding:**

The Regents expressed their need for a definite statement on level of funding for both the present program and for a "four-year school" should that be the option taken.

**5. Location of the Medical School:**

Apparently there has always been division on the location of the medical school. The pres-



ent medical science program is at the University of South Dakota in Vermillion. Students are transported to other communities for clinical teaching. Should a degree granting program be developed the question of moving the school will arise. The most commonly considered site is Sioux Falls. A corollary question is whether other health science schools should be moved to form a health science campus.

#### **6. Use of funds for medical education elsewhere:**

Should the two-year medical school neither survive nor be replaced by a four-year school, the monies now spent for medical education could be used to pay costs for South Dakota students in other medical schools. The Regents inquired about this and the possibility of pacts with such schools.

#### **7. The regional concept:**

Over the years there has been talk of various combinations and pacts between states. These range from sharing costs between states for medical education at a single school (e. g., Northern Association for Medical Education) to simple payment of total cost of education by one state to another.

#### **8. Nursing Education:**

There are two programs in Regent institutions. One is located at the University of South Dakota and is an associate degree program (two years). The other is at South Dakota State University. This is a four-year curriculum leading to the B.S.N. degree. There is some concern about having two programs possibly duplicative in some respects and, at the same time, widely variant in scope.

#### **9. Training of paramedical personnel:**

The Regents wonder what their responsibility might be for the production of allied health personnel, particularly physician's assistants. The use of the latter in rural communities without physicians has been considered seriously.

The response to these questions will be in terms related to the health science education programs in those institutions governed by the Regents. Insofar as is possible, the effects of other programs in other institutions will be considered. The Regents' questions, however, are mainly philosophical or inquire about programs unique to their institutions.

#### **Present Programs:**

Following is a list of programs in operation at the Regents' institutions:

At the University of South Dakota (Vermillion)

1. School of Medicine — 2 years — basic medical sciences leading to B.S. in Medicine
2. Dental Hygiene — 2 year basic A.A. course—option for four years leading to the B.S. degree
3. School of Nursing—a two-year associate degree program
4. Medical Technology—a four-year curriculum in the Department of Pathology leading to the B.S. degree
5. Graduate Programs in the medical biosciences leading to the Ph.D. degree

At South Dakota State University (Brookings)

1. College of Nursing—a curriculum of 4 years leading to the B.S.N. degree
2. College of Pharmacy—a 5 year course leading to the B.S. in Pharmacy
3. Pre-Veterinary Program in the College of Agriculture, Department of Veterinary Science—a two-year curriculum preparing students to enter a College of Veterinary Medicine
4. Sanitary Engineering Program in the College of Engineering, Department of Civil Engineering—a four-year course in Civil Engineering with a technical concentration in aspects of sanitation
5. Physical Therapy Program in the College of Arts and Sciences, Department of Health, Physical Education and Recreation—a four-year curriculum leading to the bachelor's degree and certification in Physical Therapy
6. Program in Diagnostic Microbiology in the College of Agriculture and Biological Sciences, Department of Bacteriology—a four-year course leading to the B.S. degree with a major in Bacteriology and a technical concentration in Pathogenic Microbiology
7. Program in Clinical Laboratory Technology in the College of Arts and Sciences, Department of Chemistry—leading to the B.S. degree and registration as a clinical laboratory technician
8. Program in Dietetics in the College of Home Economics, Department of Nutrition and Food Science—a four-year curriculum leading to the bachelor's degree and qualification for dietetic internship
9. Various Graduate Programs at the Masters and Ph.D. levels in sciences related to Pharmacy and Medicine



The School of Medicine:

The School of Medicine has a two-year curriculum devoted to the basic sciences and the introduction to clinical medicine. It is a standard curriculum designed to articulate with four-year medical schools to which the students must go to complete their education. The basic science departments are responsible for teaching their disciplines in Dental Hygiene, Nursing and Medical Technology. Each of these departments has a graduate program leading to the Ph.D. degree in its specialty. The only other academic department in the school is the Department of Clinical Instruction, which is responsible for organizing and conducting the introduction to clinical medicine including Physical Diagnosis.

**Premedical Education:** All seven of the Regents' institutions in South Dakota have premedical programs. Private schools preparing students for entrance into medicine are Augustana College, Sioux Falls College, Huron College, Dakota Wesleyan College and Yankton College. Approximately 90% of the first year students in the School of Medicine come from the University of South Dakota, South Dakota State University and Augustana College.<sup>2</sup>

**The Student Body:** In the academic year 1970-71, there were 100 students enrolled of whom 54 were freshmen and 46 were sophomores. The entering class was the largest in the history of the school.<sup>2</sup> It was drawn from an applicant pool numbering 705.

The pool of applicants needs some scrutiny. There were only 63 from South Dakota and 14 of these subsequently withdrew leaving 49. Of these, 34 were admitted and enrolled. The out-of-state applicants totaled 642 of whom 85 withdrew and 20 were chosen and enrolled from the remaining 557. The non-resident enrollees were, on the average, somewhat better qualified than the resident students. The following table shows the mean grade point average and the average Medical College Admission Test score for both groups and for all students.<sup>3</sup>

Student Group	G P A		M C A T			
	Cum.	Science	Ver-bal	Quan.	Gen. Info.	Science
Non-resident (20)	3.12	3.01	532	605	523	553
Resident (34)	3.07	3.09	510	580	505	540
All (54)	3.09	3.06	518	589	512	546

These grades compare favorably with those of most publicly supported medical schools.

*Comment: The proportion of non-resident students (37%) entering at South Dakota is quite large in comparison with other state supported schools. A recruitment campaign at the high school level might be in order.*

The attrition rates for the classes 1966

through 1970 are shown in the following table:<sup>3</sup>

Class	Entering	Graduating	Attrition
1966	45	35	22.0 %
1967	46	41	10.8 %
1968	42	39	7.1 %
1969	49	36	26.5 %
1970	49	42	14.3 %
TOTAL	231	193	16.4 %

*Comment: These attrition rates are entirely too high being about twice the national average. The situation must be studied and real causes identified (financial, emotional, academic) and eliminated insofar as possible. The quality of students admitted and the smallness of the classes should make it possible to retain all but an occasional student.*

After successful completion of two years at South Dakota, the medical students scatter among a large group of four-year institutions to complete their education. The 193 from the classes of 1966 through 1970 were admitted to 35 schools. Those accepting more than 10 were Colorado (17), Minnesota (33), Nebraska (12), Northwestern (18), and Texas (San Antonio) (14). Schools taking five or more were Baylor (5), Harvard (8), Iowa (7), Kansas (6), Temple (9), Tufts (5), Washington St. Louis (7), Washington State (8), and Wisconsin (6). The remaining 37 students transferred to 21 other institutions. One student is not included in this breakdown. The list of schools to which South Dakota students transferred is impressive and contains a cross section of both public and private schools of good quality.<sup>3</sup>

*Comment: South Dakota medical students have demonstrated their ability to gain entrance to good schools for completion of their education. There should be no concern for this in the future, although care will need to be exercised to maintain a curriculum which will mesh with those of the M.D. degree granting institutions.*

Students who transfer from South Dakota have a splendid record of achievement. Rarely does one fail to complete the requirements for the M.D.<sup>2</sup>

**Distribution after Graduation:** It is impossible to tell where the young physician will settle down to practice and what specialty, if any, he will enter for about seven years after he receives the M.D. degree. (One year internship, 2 years military service, 3-5 years specialty training.) For South Dakota graduates another two years must be added for the completion of the M.D.

In the years of 1954 to 1960 inclusive there were 214 recipients of the B.S. in Medicine at the University of South Dakota. Of these 202



(94.3%) could be located in 1970.<sup>3</sup> Fifty-six are listed in the **Directory of Medical Specialists**, Vol. 13, 1969. It is probable that more are specialized and have not yet completed the required examinations for certification.

Of this same group, 37 (18.3%) were practicing in South Dakota. (Since it is probable that the 12 "lost" physicians were not in South Dakota, this percentage is probably closer to 17.3%.) The same number (37) were practicing in states contiguous with North Dakota; 12 were in Colorado and 17 in Wisconsin, Kansas, Missouri and Illinois combined. Thus 103 (51%) were located in the upper Midwest, great plains region. Forty-one (20%) were in California.<sup>3</sup> The exodus to California is a phenomenon common to all Midwest medical schools.<sup>4</sup>

*Comment: South Dakota is beset with the same problems as the rest of the predominantly rural Midwest insofar as recruitment of physicians is concerned. The forces causing redistribution of physicians, both geographically and among specialties, are mainly socioeconomic in nature and not totally responsive to change of educational programs. However, the educational sector of society has the responsibility of producing the right kind of health personnel, of studying health care delivery and of participating in experiments designed to test methods of delivery. It is being said more and more frequently that universities should pursue a leadership role in these matters more vigorously than in the past.*

**The Faculty:** The Faculty of the School of Medicine comprises 41 full-time members, 45 part-time clinical members and 51 preceptors. Some of the part-time members are paid partial salaries but these are few. The faculty list includes those members concerned exclusively with the dental hygiene program and with supportive services (e.g., animal house, library). When only those whose major concern is class room instruction in medicine are counted the number is reduced to 31. This Faculty also has considerable involvement in teaching in the programs of nursing, medical technology and dental hygiene and in the graduate programs in the biosciences related to medicine. The quality of the Faculty is difficult to assess and no attempt was made in this brief survey. It should be noted, however, that the quality of the medical graduate as measured by his success on leaving the School is excellent and this speaks well of the Faculty.

**Organization of the Faculty:** The basic science departments are five in number: Anatomy, Biochemistry, Microbiology, Pathology and Physiology and Pharmacology. Members of the Pathology Department are part-time and

have private practices in cities other than Vermillion. The rest of the basic science faculty are on 12 months' appointments at 100% of time with one exception who is 75% of time.

The sixth department is Clinical Instruction. This has one associate professor who is part-time and practices medicine in another city. One other position is unfilled and at this point, for practical purposes, unfunded (\$2030 for 12 months). The part-time associate professor is also ranked as an assistant dean and acts as a coordinator of the clinical training carried out in various locations with a large group of volunteer teachers.

**The Administration:** There has been a recent change in administration. The school has a full-time dean and an assistant dean who splits his time 40% in administration and 60% in the Department of Anatomy. The associate professor in Clinical Instruction is also an assistant dean. The channels for administration are not entirely clear at this point. There is a newly appointed vice president for health affairs to whom the dean will report. Whether some of the programs now reporting to the dean of medicine (e.g., Dental Hygiene) will continue to do so is not clear at this point. At the time of this survey the administrative structure was somewhat fuzzy.

*Comment: The Faculty of the School of Medicine has several academic responsibilities. It seems to be discharging these responsibilities quite well. The academic program in medicine is sound. The combination of physiology and pharmacology into one department has been common in the past but has now been abandoned in most medical schools. In the future, the division of this department into two may be desirable. This will be one of the considerations to be kept in mind as curricula change and as long as this school remains a basic science (two year) school. Modern physiology departments tend to teach basic principles and to leave organ physiology ("applied physiology") to the clinical departments. Since the connection between physiology and pharmacology is on the "applied" side, separation into two departments may be desirable at sometime in the future.*

**Supporting Departments:** Included in the budget of the School of Medicine are three supporting departments. These are the Laboratory Animal Services, the Medical Communications Section and the Medical Library. The Laboratory Animal Services is staffed by a 1/3 time veterinarian. The Medical Communications Section has one staff person who develops audiovisual materials and doubles as a public relations person. The Medical Library has one librarian and one assistant. Journals and acquisitions for the library are budgeted as operations and maintenance.



*Comment: The financial resources of the supporting departments are meager. In an operation of this size there is some question as to whether these departments should be administratively separate from similar departments in the University as a whole.*

**Physical Facilities:** The School of Medicine is well-housed. Each department has adequate office and research space. The teaching laboratories are most adequate and well-equipped. There is a 240 seat auditorium. Library space is adequate. The main portion of the building was completed in 1950, a research wing in 1960 and additional teaching space was completed in 1969. The research laboratories are also very well equipped.

**Financial Support of the School of Medicine:** No cost allocation studies have been done on the School of Medicine. One can, therefore, only make estimates of the amount of financial support of medical education. The budget of the School as printed does not include expenditures from restricted funds except salaries. Thus, funds from these sources spent for equipment and consumable supplies for medical education are not identifiable. However, the total of grant funds to the School of Medicine is somewhere in the neighborhood of \$350,000 to \$400,000, of which \$263,671 is budgeted as salaries. If one assumes that the unrestricted (appropriated) budget which totals \$860,585 and the salaries from grants can be added and that 60% of this goes for support of medical education, the following figures are available for comparison. (60% is probably a high estimate in view of the several programs in which the Faculty is involved.) In this calculation one removes Dental Hygiene so that the total budget for medical instruction becomes 60% of \$860,585 + \$263,571 — \$84,130 — \$15,300 = \$714,835. This is a very rough estimation but yields a figure of about \$7000 per student which is comparable to other medical schools.

*Comment: The above calculations are to be viewed with caution. It appears that the direct costs of medical education are adequately funded but more refined data should be obtained in the future.*

**Postdoctoral Medical Education:** Internships and resident programs in South Dakota hospitals are few. There are 14 internships, 6 at the Sioux Valley Hospital in Sioux Falls and 8 at the McKennan Hospital also in Sioux Falls. There is a residency in pathology at the Sioux Valley Hospital and one in general surgery together with one in Obstetrics and Gynecology in the Sacred Heart Hospital in Yankton. All three of these hospitals are affiliated with the teaching program of the medical school.

*Comment: The development of more postdoctoral training in South Dakota might aid the recruitment of physicians into the state. This will be difficult because only 3 hospitals in the state have 200 beds or more. However, in Aberdeen, Mitchell and Rapid City there are hospitals with a total bed capacity in excess of 200 which could mount joint programs. The new residency programs in Family Practice offer an opportunity for innovation in postdoctoral training which might be exploited.*

### **The Program in Nursing at the University of South Dakota:**

The School of Nursing has a two-year program leading to the Associate in Arts degree. There are 50 entering students each year chosen from 150 to 200 applicants in the past two years. About 30% of the students are from outside South Dakota and 65% of the graduates take their first jobs in the state. The basic sciences are taught by the medical school Faculty and social sciences and general education courses by the Faculty of Arts and Sciences.

The Faculty of the School of Nursing has 10 positions of which two are 12 months appointments at 100% of time. The others are 9 months appointments at 100% of time, except for two which are 50% and 35% respectively. The total budget of the school is \$87,775 of which \$73,955 is for faculty salaries. Clinical experience is obtained at the McKennan Hospital in Sioux Falls. Satellite programs for Indian students are under development at the Pine Ridge and Rosebud reservations in two Public Health Service Hospitals. These programs will enroll 12 students to start.

Accreditation by a national agency (NLN) has not been sought. It is felt that the Faculty of the School does not meet standards. Two have a Masters degree and six the B.S. However, only 4 of the Faculty have been teaching in the School for more than one year and none for more than three.

*Comment: The future of this program should be determined very soon. It has potential for growth but two problems must be faced. One is whether the University should develop a sub-baccalaureate program in the same system. The other is the question of accreditation.*

### **Program in Dental Hygiene at the University of South Dakota:**

This is basically a two-year Associate in Arts program but the students have the option of completing the B.S. degree in 4 years. Some students enter the program with advanced standing.

The program was started in 1967 and has graduated 3 classes. Until now 16 students have been accepted each year but 18 will enter in September 1971. These were chosen from an



applicant pool of 70. The program has accepted no out-of-state students and 70% of the graduates have remained in South Dakota for their first jobs.

The basic sciences are taught by the Faculty of Medicine and the general studies by the Faculty of Arts and Sciences. The Faculty of the program itself comprises the chairman who holds the D.D.S. degree and who has a 12 months appointment at 100% of time; two others at 12 months, one at 67% of time and one at 100%; three at 9 months and 100%; one at 9 months and 40% and one at 9 months at 20%. The salary budget for instruction is \$77,000 and the total budget from all sources is \$99,430. The program is nicely housed and well equipped.

Clinical instruction is carried out on the campus in a clinic which is used by the student body of the University. Clinic fees are charged and the income is used to buy consumable supplies. Further experience is gained at the Yankton State Hospital. There is no shortage of clinical material and a larger class could be accommodated.

The program is accredited by the American Dental Association Council on Dental Education. The average grade of its graduates on the national board examination is 88% which is very good.

*Comment: This is an excellent program which is apparently filling a need in the state. The unit cost is quite high. A relatively modest outlay for equipment should enable the program to expand without increasing operating costs. This would lower the unit cost and should be considered. At some time in the future the generic question of the place of an associate degree program in the University will have to be considered.*

#### **Program in Medical Technology at the University of South Dakota:**

This program is part of the effort of the Department of Pathology. It is a standard four-year course leading to the B.S. degree. The first three years are taken on campus and the fourth in an accredited hospital school of laboratory technology. The degree is awarded by the University after the fourth year and the student is eligible for examination for registration as a medical technologist.

The entering class has been growing and next year will have 27 members. Eighty per cent of the students are from South Dakota and 50% to 60% of the graduates stay in the state.

Instruction is given by the Faculty of Arts and Sciences and the Faculty of Medicine. There are two full-time members of the Department of Pathology who are mainly responsible for the course but who also teach medical students.

The program offers two continuing education courses for Medical Technologists yearly. There were 160 registrants at the last session.

#### **Graduate Program in the Biosciences at the University of South Dakota:**

There are programs leading to the Ph.D. in Physiology, Pharmacology, Anatomy, Biochemistry and Microbiology. The total number of students is 27. They are supported mainly by grant funds and act as research assistants and teaching assistants. The latter function is of considerable importance to the educational programs of the School of Medicine.

#### **The College of Pharmacy at South Dakota State University:**

The College of Pharmacy presents a five-year curriculum divided into 2 years of pre-pharmacy and 3 of Pharmacy. The first two years may be taken at another campus with transfer to South Dakota State University at the beginning of the third year. Should the student take the first two years at South Dakota State he has two one semester hour courses in the College of Pharmacy (Introduction to Pharmacy) and the rest of his work is taken in the College of Arts and Sciences, Agriculture and Biological Science and Engineering. In the last 3 years most of the instruction is done by the Faculty of Pharmacy but some is done by other colleges including Nursing.

**The Student Body:** In the past five years the total student body (5 years) has ranged between 310 and 329. In the same years there have been between 132 and 170 students in the last 3 years, and the number of graduates seem to have stabilized at about 53 per year. Apparently all qualified applicants are accepted into the third year.

About 70% of the students enrolled are residents of South Dakota. There has been a 25% decline in the number of non-resident students in Pharmacy in the past decade. Few South Dakota students enroll in Pharmacy elsewhere. In 1968-69, 127 South Dakotans were studying pharmacy and all but 8 were at South Dakota State. In the following year there were 119 students of whom 7 were attending schools out of state.

*Comment: The College is obviously filling an educational need and producing pharmacists for South Dakota. A meeting with the Board of Pharmacy revealed satisfaction with the school. It was stated that there is no shortage of pharmacists in South Dakota and that the College is producing a sufficient number for growth and replacement. In view of predictions at the national level that there will be no shortage of pharmacists in the next 10 to 15 years,<sup>5</sup> it may be that the school should be stabilized at its present size.*



**The Faculty:** There are 8 full-time (12 months appointment—100% of time) members of the Faculty including the dean. One faculty member is on a 9 months appointment for 100% of time. There is one part-time clinical instructor and there are two graduate teaching assistants.

**Physical Facilities:** The College of Pharmacy has a total of 15,903 square feet net for its programs. Part of this space is superbly situated in a new building but approximately one-third is in an old building which is barely adequate. Animal quarters are minimal and poorly equipped. Teaching laboratories are well-equipped and research space is adequate. One faculty member has a federally financed research project.

**Clinical Pharmacy:** One of the recent trends in pharmacy education has been the exposure of students to the patient. This poses problems in a school so isolated from clinical medical facilities as is the College at Brookings. However, the 60-bed hospital in the city accepts 5 students per week and three hospitals in Sioux Falls accept 2 students at a time for a week's period. The Health Services Dispensary at the University accommodates 2 pharmacy students per day. This phase of teaching has just been started and will undoubtedly improve with time.

**Graduate Programs:** There are Masters degree programs in Pharmaceutical Chemistry and in Pharmacology. These are small programs with one or two students. Most of the M.S. recipients go to other schools and complete the Ph.D. Except for a very few who enter industry the students enter teaching careers on receiving the Ph.D.

#### **The College of Nursing at South Dakota State University:**

The College of Nursing is a somewhat hybrid collection of programs of which the basic one is a four-year curriculum leading to the B.S.N. degree. It has a somewhat stronger public health nursing orientation than most nursing schools.

**The Student Body:** Nursing education began at South Dakota State in 1956 and has grown steadily. In 1960 there was a total of 125 students of whom 32 were freshmen. By 1970 these numbers had grown to 437 and 155. The number of graduates has increased from 36 in 1960 to 63 in 1970. The class of 1971 was 83 in number. Total enrollment is projected to go to 617 by 1977-78.

The quality of the graduates is excellent. In state board examinations (standard N.L.N. test) South Dakota State graduates consistent-

ly have an average score well above that of all other U. S. graduates and that of graduates in other schools in South Dakota.

Eighty-eight per cent of the students are South Dakota residents and 20% take their first job in the state.

**The Curriculum:** The curriculum is a standard one of four years with two unusual features. In the first year all instruction is given in colleges other than Nursing. In the second year there are five semester hours in Nursing and the rest of the courses are given in the other colleges. In the junior year almost all instruction is given in the College of Nursing and the second semester is taught entirely in the St. Paul, Minnesota branch. The same is true of the first semester of the senior year. In the final semester students return to the Brookings campus. This is the first unusual feature. The second is a heavy reliance on programmed teaching with the aid of a computer. The program is fully accredited.

**The Faculty:** There are 20 full-time members of the Faculty of whom 10 are in Brookings and 10 in St. Paul. There are an additional 6 part-time persons in St. Paul. The Faculty is organized into three departments—Department of Nursing which has the responsibility for the basic course; the Department of Health Science and the Department of Continuing Education.

**The Department of Health Science:** This is a most unusual department to be included in a College of Nursing. It has 3 basic courses: a four-year curriculum for sanitarians leading to the B.S.; another four-year course for Public Health Administrators leading to the B.S. degree and a third 4-year course for Environmental Health Specialists leading to the B.S. The Department gives service courses for the programs in physical therapy, medical technology, physical education, pharmacy, and Home Economics (dietetics).

*Comment: This department was apparently developed to fill a void in teaching capability at the University. It would be unnecessary in an institution with a fully developed health science center.*

**The Department of Continuing Education:** This department is extremely active. It has been concerned mainly with refresher courses for registered nurses and allied health personnel and courses for nursing home operators. It has been funded almost exclusively from federal grants and averages two extension type courses per month.

**The St. Paul Campus:** Instruction in St. Paul is carried out in three affiliated hospitals—St. Luke's, Children's and St. Joseph's. Negotia-



tions are underway with a fourth—Millers. Clinical instruction is given in Medical-Surgical Nursing, Psychiatric Nursing, Maternity and Pediatric Nursing. Currently an application for a construction grant for an office, classroom and library building at St. Luke's Hospital is pending.

**Funding for the College:** In 1970-71 the College had \$324,029 in unrestricted (appropriated) funds and \$331,165 in restricted funds (federal grants).

**Physical Plant:** The College has superb facilities in a new building. Its teaching laboratories are unusually well-equipped.

*Comment: This is a strong College of Nursing with the peculiar problem of a split campus. It has a strong orientation to Public Health Nursing and an unusually well-developed program in computer assisted instruction. In the future the hard question of restricting the size of the entering class may have to be faced.*

**Graduate Programs in Nursing:** None.

#### **Program in Medical Technology at South Dakota State University:**

This is a standard four-year curriculum leading to the B.S. degree and admission by examination to the registry of medical technicians. It is under the direction of the Department of Chemistry. The first three years of didactic work are taken on campus and the fourth in a school of Clinical Laboratory Technology approved by the Council on Medical Education and Hospitals of the American Medical Association. The degree is awarded by the University.

There are approximately 100 students enrolled in the program. There are only six approved schools of medical technology in South Dakota which are not large enough to take all the fourth year students. The majority of those leaving the state go to Denver, Tucson and the Twin Cities.

**Other Allied Health Programs:** The South Dakota State University has several other small programs preparing people for careers in the health field. These have developed as technical concentrations in special fields. The programs are sanitary engineering, diagnostic microbiology, dietetics and physical therapy. The dietetics program must be followed by a hospital internship and the physical therapy program by one year of clinical training in an approved school of physical therapy.

**Graduate Programs Related to Health:** In addition to those described in Pharmacy, there are three other small graduate programs: a Masters degree in Nutrition and Food Science,

a Masters in Microbiology and a Ph.D. program in Biochemistry.

**Integration of Teaching at South Dakota State University:** There is a high degree of integration and of elimination of duplication at both Universities. It is most evident in the undergraduate health colleges (pharmacy and nursing). It is calculated that students of pharmacy and nursing require the full time of about 10 instructors in other colleges. In turn, the Department of Health Science in Nursing and the Department of Pharmacology in Pharmacy teach students from a wide variety of disciplines outside their parent college. This factor would need consideration if moving these colleges to a new location were contemplated.

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#### **CONCLUSIONS AND RECOMMENDATIONS** **The "two year"—"four year" School Problem**

The consultants were agreed that, for the time being, South Dakota should continue support of the present two-year school of medicine at about its present size. The only reason for closing it would be failure of the students to achieve transfer to a four-year school. So far this has not posed a problem. The graduates of 1971 numbered 47. Of these 12 transferred to Minnesota; 5 to Iowa; 5 to Tufts; 4 to Baylor; 4 to Colorado; 3 to Northwestern; 3 to Nebraska; 2 to Oklahoma; and one each to Chicago, New York University, University of California at Los Angeles, Utah, George Washington, Rush, Pennsylvania, North Carolina and Cincinnati.

*RECOMMENDATION I: Maintain the present two-year basic science school.*

At the same time, the Regents would be well advised to consider the development of an M.D. degree granting institution in the future. This should not be hurried for several reasons. First, the concept of the "4-year medical school" is being questioned. A degree granting institution could be developed by the adding of one more year to the present two. Second, the M.D. degree granting program must be soundly based in an integrated health care delivery system in which there are specialty training programs including family practice. The or-



ganization of health care delivery is changing and as new units develop (e. g., rural family practice clinics) there will be need to place students in them. This demands careful planning. Finally, the cost of this kind of expansion is considerable. There will be both capital expenditures and increased operating costs. It would appear that, in the present state of funding of higher education in South Dakota, this could be accomplished only by either increased income or drastic reordering of priorities. No timetable is suggested but this may be feasible in the late 1970's or early 1980's.

*RECOMMENDATION II: The Regents should consider the establishment of an M.D. degree granting program in the future. This should be soundly based in an integrated health care delivery system which also supports postdoctoral (residency) training in the specialties including the primary physician (e.g., family practice, general internal medicine and general pediatrics).*

#### **Level of Funding of Medical Education:**

The unit cost of medical education at the University of South Dakota seems to be roughly at the average for the country. The library is funded at a low level for acquisitions and journals. It should be pointed out that medical school salaries tend to rise at a faster rate than the rest of higher education. The relative position of the medical faculty salaries in comparison with other medical schools should be watched closely. Should the decision be made to develop an M.D. degree granting institution, increased operating costs will have to be met. The amount necessary cannot be accurately estimated but clinical teaching is ordinarily about twice as expensive as basic science teaching. Because the present budget provides some clinical instruction, the increase needed would be in the order of magnitude of two to three times the present budget.

#### **Location of the Medical School:**

Unless the medical education program is expanded the present location of the medical school is all right. There are both cultural and economic gains in having the medical school on a university campus. However, students are now transported to other cities for clinical experience because facilities at Vermillion are inadequate. Should an M.D. degree program be developed a center (or centers) for clinical education will be a necessary component. There are advantages in having both basic science and clinical education at one site but this is not essential. Other schools have successfully split the two components. The capital outlay for building a whole new medical school is enormous — and it would seem prudent to leave

the first two years where they now are for the foreseeable future.

The concept of building a health science campus and moving medicine, pharmacy, nursing and allied health programs together, either with one of the universities or on a separate campus has been advanced. The only community which seems a likely site is Sioux Falls. However, there are already three nurse training programs in Sioux Falls and the hospital space for nursing education is fairly well saturated. While it is true that the three professional schools would be mutually supportive if together (e. g., common basic science departments), it is also true that instruction now given by other Faculties in the two campuses (e. g., English, sociology, etc.) would have to be duplicated at the new site. The gains and losses would likely offset each other and little or no net savings would result. In addition, the capital outlay would be enormous.

*RECOMMENDATION III: The three professional schools (medicine, nursing, pharmacy) should be left where they are for the foreseeable future. A clinical center or centers for instruction should be developed as feasible.*

#### **The Regional Concept and Use of Funds for Medical Education Elsewhere:**

The consultants do not believe the concept of a "regional school" supported by several states is a viable one. On the other hand, there are several interstate organizations in higher education which function efficiently and provide such things as jointly sponsored programs (not whole colleges); use of sophisticated equipment by visiting faculty; temporary transfer of students for special courses and the like. Examples of these organizations are WICHE (Western Interstate Commission for Higher Education) and the CIC (Committee on Interinstitutional Cooperation of the Big Ten). The movement to form an interstate agency in the Upper Midwest is one which has much to recommend it.

The use of funds from South Dakota to pay unit cost of medical education at other medical schools does not seem justified at this time. It is likely that federal funds for medical education will be distributed to medical schools on a capitation basis probably with a premium for graduates. South Dakota students who transfer will augment the support of the school to which they go.

The Medical School should continue to make formal or informal arrangements with sister institutions with good programs for the transfer of its students.

*RECOMMENDATION IV: The Regents should support the formation of the proposed interstate*



agency and encourage the Medical School in its efforts to reach agreements with its sister institutions.

### **Nursing Education:**

The basic course in nursing at South Dakota State University is of top quality in spite of many handicaps. The consultants were somewhat concerned about the level of funding. The School is heavily dependent on federal grants which comprise slightly more than half its budget. It is true that many of the programs supported by grants could be discontinued without damaging the basic program. However, these are mainly in the area of continuing education for nurses and are very important to the state. Furthermore, the undergraduate program in nursing receives approximately \$75,000 per year from federal sources which would have to be replaced if lost.

The Associate in Arts program at the University of South Dakota apparently meets a need in the state judging by the facts that 200 applicants vie for the 50 places in the entering class and that 65% of the graduates stay in South Dakota. The consultants, although realizing that this is a relatively new venture, were concerned about the rapid turnover in the Faculty of this program which makes maintenance of quality difficult. Application for accreditation has never been made for this reason. An A.A. program should be designed to provide for upward mobility and accreditation may enter into this consideration. However, accreditation of nursing programs in the United States is in a state of some confusion at the present time so that this problem is not of great magnitude.

One legitimate question is whether a University should operate programs at the sub-baccalaureate level at all. This program seems justified because it fills a need and because there is only one other A.A. program in the state. Should more be developed discontinuance of this one might be in order but, for the present, it is needed as a model.

There is a larger question about nursing education in South Dakota which needs study. It appears to the consultants that nurse training in South Dakota may be out of balance. There are three College of Nursing programs awarding the B.S.N. degree in South Dakota at Brookings, Sioux Falls and Yankton; four diploma programs at Mitchell, Huron, Sioux Falls and Rapid City; five L.P.N. programs at Sioux Falls, Mitchell, Watertown, Pierre and Rapid City; but only two A.A. schools in Aberdeen and Vermillion. The national trend is toward A.A. schools in community colleges with significantly more opportunities for training at the A.A. level than at the B.S. level.

*RECOMMENDATION V: The Regents should consider funding of the School of Nursing at South Dakota State at a higher level.*

*RECOMMENDATION VI: The A.A. program at the University of South Dakota should be considered as a model for the state and attempts made to stabilize the Faculty.*

*RECOMMENDATION VII: The Regents should consider placing a ceiling on the size of the entering nursing class at South Dakota State. This might be a number slightly larger than the present entering class.*

### **Training of Allied Health Personnel:**

**Dental Hygiene:** This is a sound program which could be doubled in size for very little cost. It is inefficient because of its size and there is a demand for the program.

*RECOMMENDATION VIII: The Regents should consider doubling this program when funding is available.*

**Laboratory Technology:** The programs at both universities are sound. The one at the University of South Dakota carries on some needed continuing education. There are currently about 35 students in each class at Brookings and 27 in the entering class at Vermillion. Because most have to leave the state to complete training and many do not return the combined size of the programs probably should not increase markedly.

*RECOMMENDATION IX: The Regents should consider setting a ceiling on enrollments in Medical Technology.*

### **The College of Pharmacy:**

This is an excellent program which fills a need in the state. It produces pharmacists in adequate numbers for the state. Unless there is an increased need at a later date, it probably should level off its enrollment at the present number.

*RECOMMENDATION X: The Regents should consider limiting the enrollment in the College of Pharmacy at about the present entering class size.*

### **Graduate Programs:**

The graduate programs related to the health sciences are small in both universities. They are largely but not completely funded from federal grants. The graduate students make a good contribution to other educational programs. The consultants felt that the graduate programs do not need to be increased in size but should be continued at the present level.

*RECOMMENDATION XI: The graduate program in the biosciences should be continued at the present level.*



Other Allied Health Programs:

At South Dakota State there are several programs such as Dietetics and Physical Therapy which are parts of other ongoing programs. These appear to offer options to students in several disciplines as part of the regular curriculum. No recommendation is made.

General Conclusions:

There is a need for continuous collection of objective data about the needs for health personnel in South Dakota. This can be done by various existing agencies in the state working cooperatively — such as the Regents Office, the universities, the Health Department and the Regional Medical Program. Such data should be considered in the development of educational programs and in limitation of size and classes.

*RECOMMENDATION XII: The Regents should consider taking the lead in arranging for continuous collection of health personnel needs.*

South Dakota, because of its rural areas, has a special interest in the concept of physician assistants. Much has been written and said about this concept but no universally accepted solution has been found. The consultants believe that South Dakota should consider the development of the public health nurse and/or the clinical nurse specialist as the physician's associate. We found widespread interest in this approach and believe it represents a viable solution.

*RECOMMENDATION XIII: The Regents should request its institutions to explore the development of nurses as the physician's associate.*

APPENDIX

Financial Support:

Financial support of higher education in general and of health science education in particular is a difficult subject. It is particularly difficult in the instance of state support. Available data consists of comparisons between states and no one has ever determined what a reasonable unit cost is. In general the rural states with low personal incomes have tended to spend proportionately more on health science education (particularly medical education) than have the more populous, wealthier states.<sup>6</sup> South Dakota ranks 23rd in expenditure per \$100,000 of per capita income for medical education and 37th in per capita income. The three top ranking states with respect to per capita income rank 43rd, 48th and 39th respectively with regard to proportionate expenditure for medical education.

The real question is — "What can the state afford?" Expenditures for higher education by

states are governed by tax income which is in turn determined largely by personal income and population. Allocation of the available funds is a matter of setting priorities. Institutions and their governing boards are increasingly subject to public pressure to increase the output of professionals (especially physicians) and sometimes this has been translated into legislative action by mandating programs or lining budgets. Unfortunately the public belief that increased output of health professionals in a given community will result in increased availability of health care in that community is not borne out by experience. In these times each state should do what it can in health education without curtailing other necessary educational programs.

The unit cost of medical education at Vermillion does not appear excessive. The unit cost in Pharmacy at South Dakota State is \$1300 compared to \$1190 for all students at that institution and to the national average cost of \$1888. No comparative costs for nursing are available.

Attached are three tables showing salaries in the three health science colleges and a comparison with national figures for medicine and pharmacy. In the case of nursing the comparison is with 18 Midwestern and Great Plains institutions. These last figures were collected by the University of Colorado.

The salaries are low in medicine but the real dollar difference is not great as is shown that a total of only \$58,747 would bring the faculty to the national average. In nursing and pharmacy the salaries at the assistant professor and instructor levels are competitive. Associate professors in nursing and professors in all three schools lag considerably behind.

These figures are useful for comparison but other considerations are important. The individual must be judged. In new schools the salaries of full professors tend to be low as faculty is promoted upward through the ranks. Cost of living in the area must also be considered.

SCHOOL OF MEDICINE				
Basic Science Mean Salaries				
	Head	Prof.	Assoc. Prof.	Asst. Prof.
Anatomy	\$23,250	\$19,766	\$15,700	\$13,610 (2)
Biochemistry	25,000	19,000	19,440	14,200 (3)
Microbiology	25,000	19,120 (2)	16,600	13,460 (3)
Physiology-Pharmacology	22,000	—	17,937 (2)	14,532 (4)
Mean	23,812	19,251	17,520	14,027
National Mean	29,748	23,120	18,363	15,303
Percentile Rank	5th	11th	28th	22nd
(Amount of money needed to adjust to national mean [1970-71]—\$58,747)				



**SCHOOL OF NURSING**  
Salaries 1971-72  
9 Months Basis

	Range	Number	Average
Professor	\$ —	1	\$ 8,062
Associate Professor	\$ —	3	10,796
Assistant Professor	9,300-14,500	8	10,396
Instructor	6,958- 9,531	7	8,557

**Average of 18 Schools**

Professor	\$15,603
Associate Professor	12,628
Assistant Professor	10,418
Instructor	8,657

**SCHOOL OF PHARMACY**  
Salaries 1971-72  
12 Months Basis

	Range	Number	Average
Professor	\$13,579-15,981	4	\$15,120
Associate Professor	-0-	1	14,500
Assistant Professor	10,955-13,000	3	12,318

**National Average**

Professor	\$17,432
Associate Professor	14,763
Assistant Professor	12,850

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# A CRITIQUE OF THE HARDIN COMMITTEE REPORT ON HEALTH SCIENCE EDUCATION-SOUTH DAKOTA

by  
Henry M. Parrish, M.D., Dr. P.H.\*

The South Dakota Legislature provided funds to the Regents of Higher Education for a study of medical education in South Dakota. The medical care needs of the people of South Dakota, especially those in rural areas, were not being met by the two-year School of Medicine at The University of South Dakota. It soon became apparent that one cannot study medical education without studying nursing education and the education of other health professionals. Thus, the original study was enlarged to encompass health science education in South Dakota. This report is an important facet of the Master Plan for Higher Education in South Dakota.

After reviewing the credentials of several medical educators, the Regents selected Robert C. Hardin, M.D., Vice President for Health Affairs at the University of Iowa to serve as chairman of the study committee. Also appointed to the committee were Kenneth E. Penrod, Ph.D., Vice Chancellor for Health Affairs of the Florida System, and Raymond Pruitt, M.D., Director of the Mayo Foundation, Rochester, Minnesota. Each of these men is an experienced medical educator and administrator.

The methods used by the Hardin Committee for collecting information about South Dakota's health problems and health science education programs were: visits with the Commissioner and the Regents of Higher Education, interviews with health science educators, inspection of the major teaching facilities, interviews with medical and health leaders, studying documents provided by the educational institutions, such as bulletins, annual reports, and special reports, and using published documents related to national and South Dakota health manpower needs.

Owing to limitations in time, it was not possible for Drs. Hardin, Penrod, and Pruitt to talk to every teacher in every institution about his program. When experts know what questions to ask, what to look for on a site visit,

and how to use available published reports, they don't need to chat with everyone. The Hardin Committee Report has the following attributes:

- (1) The factual data in the report are reasonably accurate.
- (2) The major issues concerning health science education were identified. One area which needs further elaboration is the development of future Allied Health Programs.
- (3) The descriptions of the current health science programs at The University of South Dakota and South Dakota State University were accurate and unbiased.
- (4) The recommendations are related to the major issues.
- (5) In general, this is a sound report.

## THE SETTING

The Hardin Committee Report comes at a very crucial time in South Dakota's history. The School of Medicine at The University of South Dakota is a two-year (basic science) medical school. Students transfer from the basic science medical school in Vermillion to other medical schools throughout the United States to complete their last two years (clinical training) of medical school. The latter institutions confer the Doctor of Medicine degrees and many of these young men and women never return to South Dakota to practice medicine. Another factor which deters from physicians returning to the state is the paucity of internships and residency (medical specialty) training programs in South Dakota hospitals. If a young man wishes to become a pediatrician, a family physician, or an internist, he must seek this training in hospitals outside the borders of South Dakota.

Decisions about the future course of health science education in South Dakota should be made in the near future for two major reasons: First, health care services in the state are deteriorating rapidly. Many towns, especially in rural areas, are without a physician. The average age for physicians in family practice in rural South Dakota is in excess of 55 years. When these physicians retire or die, who is

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going to replace them? Most of the hospitals in South Dakota have fewer than 100 beds and are difficult to operate. Nursing homes have as many or more beds than hospitals in South Dakota. They have requested assistance in upgrading the training of their personnel. South Dakota's population ranks in the top ten in the nation for the percentage of people sixty-five years of age or older. The need for medical care services increases with age. Secondly, a number of changes are taking place in medical education which will facilitate the development of a complete medical education program and improve the organization of other health science education programs.

There is a shortage of health science personnel on the national level as well as on the state level. Several bills are being considered by Congress which would supply substantial support to medical schools, including incentives to develop more degree granting medical schools.<sup>1</sup> It no longer requires four years to complete a medical school education. About 25 schools are looking at a three year curriculum. Accrediting agencies are encouraging innovation in training programs. It is not necessary for a University (medical school) to own a University hospital. Clinical training for medical students and other health science students can be provided in hospitals owned by other groups. There is a national move away from training too many medical specialists and toward training more family physicians.<sup>2,3,4,5</sup> Thus, it is possible to develop a degree granting medical school in South Dakota using hospitals and other resources in South Dakota at a cost South Dakotans can afford. Special emphasis in an educational program of this kind should be placed on training family doctors.

#### COMMENTS CONCERNING RECOMMENDATIONS

Unquestionably, the most important section of the Hardin Committee Report is that dealing with conclusions and recommendations. When a report of this magnitude is developed, it is not possible to print every facet of the reasoning behind a recommendation. Questions and comments were generated when Drs. Hardin, Penrod, and Pruitt presented the Report to the Regents of Higher Education at their meeting in July, 1971. Further dialogue took place when I presented a critique of the Hardin Committee Report at the August, 1971 meeting of the Regents.

It would indeed be unusual if everyone agreed with all of the recommendations of the Hardin Committee. Likewise, probably not everyone will agree with the following critique of the recommendations.

**I Maintain the present two-year basic science school.** The two-year school should be retained as a base for future development. The curriculum of the medical school needs to be revised. While the two-year school provides opportunity for South Dakotans to obtain a medical education, the school is not providing the medical manpower needed for South Dakota communities. Also, the school has not been able to respond to other societal needs such as continuing education for physicians and other health workers. Three years ago the School of Medicine presented a request to the Regents which would have provided for upgrading of present departments and the addition of new programs, such as Family Medicine, Community Medicine, and Continuing Education. The estimated cost of this program was \$900,000. Also, with a one-time outlay for equipment and a minimal addition to the operating costs, the size of the entering medical school class could be increased from 54 to 64 students.

**II The Regents should consider the establishment of an M.D. degree granting program in the future.** This should be soundly based in an integrated health care delivery system which also supports post-doctoral (residency) training in the specialties including the primary physician (e.g., family practice, general internal medicine, and general pediatrics). This is perhaps the most important recommendation in the entire study. A decision should be made in the near future about establishing an M.D. degree granting program. If a decision were made to develop this program, it would take two to three years to design the curriculum, recruit the staff, and initiate a pilot program with 10-15 students. Furthermore, it would take eight to ten years to construct additional educational facilities and to expand the degree granting program to include all students. Thus, an affirmative decision now would take until the late 1970's or the early 1980's to implement.

Previous estimates of cost of a degree granting medical program for South Dakota were far too high. If The University of South Dakota developed a three-year medical curriculum, if it did not build and operate a university hospital, if it did utilize existing hospitals and part-time clinical teachers in South Dakota, and if it recruited a small cadre of full-time



clinical teachers, the annual operating costs are estimated at \$3.5 million. This sum is not a great deal more than the sum required to modernize the curriculum and expand the functions of the present two-year basic science school. If a degree granting medical program were started, the location of the medical school becomes an important issue. The following are a list of alternative plans that the Regents should consider:

1. **Basic Science Training in Vermillion, South Dakota — Clinical Medicine Training in Vermillion, South Dakota.** While Vermillion is a suitable location for basic science training in medicine, it does not have enough hospital beds to facilitate the teaching of clinical medicine to large numbers of medical students. The Dakota hospital has 55 beds.<sup>6</sup> Moreover, Vermillion is located in the middle of three medical referral centers: Sioux Falls, South Dakota; Yankton, South Dakota; and Sioux City, Iowa.
2. **Basic Science Training in Vermillion, S. D. — Clinical Medicine Training in Yankton, South Dakota.** The bulk of clinical training for medical students in the two-year medical school has been provided by physicians in Yankton. They are a valuable resource for teaching clinical medicine. However, the 235 bed open-staff general hospital in Yankton is not large enough to support all of the clinical training necessary for a degree granting medical school.<sup>6</sup> It requires about a 400 bed closed-staff general hospital to support a degree granting medical school. The hospital bed requirement would be even larger where the open-staff pattern of practice is utilized. An open-staff hospital is one in which any physician in the community may apply for practice privileges. A closed-staff hospital is one in which only full-time faculty members of the medical school have practice privileges. Yankton is also the site of the State mental disease hospital [1,601 beds].<sup>6</sup> While Yankton could serve as one of several clinical centers for medical and health science education, it does not have the resources to be the only clinical center for health science education in South Dakota.
3. **Basic Science Training in Vermillion,**

#### **South Dakota — Clinical Medicine Training in Sioux Falls, South Dakota.**

The community in South Dakota having the largest number of hospital beds is Sioux Falls. Currently there are 1,003 hospital beds in Sioux Falls.<sup>6</sup> The McKennan Hospital and the Sioux Valley Hospital both are engaged in major expansion projects which will add additional hospital beds and patient care services. Also, this city has a high percentage of medical specialists. Some of the physicians in Sioux Falls have had experience in teaching medical students. Further details about Sioux Falls as a clinical center may be found in alternative number 5.

4. **Basic Science Training in Vermillion, South Dakota — Clinical Medicine Training in Several Communities in South Dakota.** At the present time, physicians in Yankton and Sioux Falls provide most of the clinical training for students enrolled in the two-year medical school. Several other communities in the state have sufficiently large hospitals and medical staffs to participate in a training program (for example, Rapid City, Pierre, Aberdeen, Watertown, Mitchell and Huron).<sup>6</sup> The extent of which these communities would be able to participate has not been determined. Hospitals in various cities would probably not be able to teach every clinical subject to medical students. For example, Rapid City might teach Internal Medicine but not Pediatrics. Smaller communities in the state could be used for preceptor and residency training programs in family practice. These communities have medical practitioners and small hospitals. An example of some of the South Dakota communities in this category are: Belle Fourche, Brookings, Chamberlain, Deadwood, Gregory, Hot Springs, Lead, Lemmon, Madison, Mobridge, Sturgis, Vermillion, Wessington Springs, Winner, Milbank and Spearfish.
5. **Basic Science Training in Sioux Falls, South Dakota — Clinical Medicine in Sioux Falls, South Dakota.** Having all of the health science education programs at one location is a distinct advantage. This, in effect, would create a Health Science Center Campus in



Sioux Falls. At the core of such a center is a degree granting medical school. Other components of a Health Science Center are: a School of Nursing; a School of Allied Health Science; Graduate degree (M.S. and Ph.D.) training programs in the basic medical sciences; medical research facilities; major hospitals and nursing home facilities available for educational programs but not necessarily owned by the University; a Regional Medical Program, internship and residency training programs for graduate physicians, and a strong continuing education program for all health professionals. In some of the larger states the Health Science Center includes a School of Pharmacy and a School of Dentistry. According to the Hardin Committee, "The only community which seems a likely site is Sioux Falls." A center of this type could be developed in one stage by constructing needed facilities all at one time or in two stages by developing a clinical center in Sioux Falls in the near future and moving the basic science program from Vermillion at a later date. Some schools which have developed a Health Science Center Campus away from the parent university are: Alabama, Arkansas, Kansas, Oklahoma, and Nebraska.

6. **Basic Science Training in Vermillion, South Dakota — Clinical Medicine Training Associated with NAME in St. Paul, Minnesota.** NAME (Northern Association for Medical Education) is an organization in St. Paul, Minnesota which is seeking support from several states to underwrite the cost of establishing and operating a medical school. The Hardin Committee states, "The consultants do not believe the concept of a regional school supported by several states is a viable one." The South Dakota State Medical Association does not support an affiliation between The University of South Dakota School of Medicine and NAME.

7. **Basic Science Training in Vermillion, South Dakota — Clinical Medicine Training in Other States Via Interstate Compacts.** This alternative is discussed under Recommendation IV.

### III The three professional schools (medicine,

nursing, pharmacy) should be left where they are for the foreseeable future. A clinical center or centers for instruction should be developed as feasible. One assumes that the three professional schools mentioned in this recommendation are the School of Pharmacy and the School of Nursing at South Dakota State University and the School of Medicine at Vermillion. However, one should not overlook the fact that there is a School of Nursing at Vermillion. The limiting phrase in this recommendation is, "the foreseeable future." Legislation currently being considered in Washington, D.C. could bring future plans into sharp focus. If a decision is made not to develop an M.D. degree granting program, there would be no reason to move the two-year basic medical school from Vermillion. Also, there would be few advantages in moving the School of Pharmacy and the School of Nursing from Brookings to Vermillion. Each of these communities has a limited number of hospital beds for clinical training. The cost would be tremendous. If a decision is reached in favor of developing an M.D. degree granting program, the alternative ways to do this are discussed in Recommendation II. If construction of new buildings is contemplated for the School of Pharmacy or the School of Nursing at South Dakota State University, and a decision is made to develop a Health Science Center in Sioux Falls, the Regents may wish to consider relocating these schools in Sioux Falls. Otherwise, the School of Pharmacy and the School of Nursing of South Dakota State University should remain in Brookings.

- IV **The Regents should support the formation of the proposed interstate agency and encourage the Medical School in its efforts to reach agreements with its sister institutions.** The Hardin Committee stated that, in general, interstate agencies which share educational resources are to be recommended. At the present time, the University of South Dakota has had no difficulty in transferring students from its two year basic science medical school to medical schools in other states for the completion of the students' training. This transfer does not cost the State anything. The Hardin Committee states, "The use of funds from South Dakota to pay the unit cost of medical education at other medical schools does not seem justified at this time." There are bills in Congress at



the present time which, if approved, provide a capitation stipend for each medical student and another stipend for each student who is graduated. Thus, other medical schools will be interested in accepting transfer students from South Dakota to obtain these stipends. Why not utilize these funds, if they become available, to develop a degree granting medical school in South Dakota? On the other hand, interstate compacts might prove advantageous to South Dakotans in other health science training programs [for example, the training of dentists and veterinarians].

**V The Regents should consider funding of the School of Nursing at South Dakota State University at a higher level.** About 50% of the funds for this school come from federal grants. The faculty of the school has been aggressive in seeking federal monies to support their programs. They are to be commended for this effort. The Regents should consider additional support to the school from State funds in order to insure the continued operation of the school's programs.

**VI The A.A. program at the University of South Dakota should be considered as a model for the state and attempts made to stabilize the faculty.** There is a need for both the School of Nursing at South Dakota State University and the School of Nursing at the University of South Dakota. The USD program is a two-year program leading to an A.A. (Associate in Arts) degree. The national trend is toward A.A. schools. A question has been raised by faculty members in other schools of The University of South Dakota about the appropriateness of an A.A. degree program in the university.

According to the Hardin Committee, "This program seems justified because it fills a need and because there is only one other A.A. degree program in the state." There can be a stronger A.A. degree program in nursing at the USD - Vermillion through association with the School of Medicine than could be achieved by transferring the school to the USD - Springfield. The Regents should also consider funding the School of Nursing at the USD at a higher level. Steps are being taken to stabilize the faculty.

**VII The Regents should consider placing a ceiling on the size of the entering nursing class at South Dakota State University.**

This might be a number slightly larger than the present entering class. The entering class for 1970 had 155 students. If this practice continued, the total enrollment for the school would approximate the faculty projections for 1977-78. This recommendation seems like a reasonable one.

**VIII The Regents should consider doubling this program [Dental Hygiene] when funding is available.** The Dental Hygiene program at the University of South Dakota is excellent, but because of a small entering class (16 students) the program's relative cost per student is high. The size of the entering class could be doubled for a one-time outlay of \$50,000 for equipment and renovation and \$13,000 per year added to the operating budget of the program.

**IX The Regents should consider setting a ceiling on enrollments in Medical Technology.** For the present time, the enrollments in Medical Technology should be stabilized at 35 students per entering class at both South Dakota State University and the University of South Dakota. No new programs in Medical Technology should be instituted at other State institutions.

**X The Regents should consider limiting the enrollment in the College of Pharmacy at about the present level.** For the present time, the College of Pharmacy "produces pharmacists in adequate numbers for the state." Enrollment should be limited to about the present level.

**XI The graduate program in biosciences should be continued at the present level.** The graduate programs are designed to train a limited number of medical scientists and teachers. It is difficult to divorce medical research from medical teaching. For the most part, the training of graduate students in biosciences is funded from grants provided by the federal government and voluntary health organizations, such as the South Dakota Heart Association. These programs should be continued at about the present level.

**XII The Regents should consider taking the lead in arranging for continuous collection of health personnel needs.** This function has been assumed by the South Dakota Regional Medical Program and the Office of Comprehensive Health Planning. Professional organizations, such as the South Dakota State Medical Association, have



provided splendid cooperation with this activity. Data relative to health manpower needs are available to the Regents at no cost.

**XIII The Regents should request its institutions to explore the development of nurses as the physician's associate.** One way to help provide medical services to rural areas is to train physicians' assistants or associates. These individuals then work under the direction of a physician. Dr. Robert H. Hayes, State Health Officer for South Dakota, has been interested in training nurses to become physician's associates. His plan has been endorsed by the Regional Advisory Group for RMP-CHP in South Dakota. Physicians are the professional group who should train physicians' associates. This is an important concept. Some of the knowledge and skills a physician's associate needs are: how to diagnose illnesses; how to interpret laboratory tests; how to screen x-ray films; how to prescribe drugs; how and when to refer problem cases; how to set simple fractures; how to deliver babies; and how to suture lacerations. The School of Medicine at the University of South Dakota will cooperate with Dr. Hayes in developing a training program for physicians' associates.

### **FUTURE ALLIED HEALTH PROGRAMS**

The Hardin Committee Report did not discuss future Allied Health Programs in sufficient detail. This critique would not be complete without a discussion of some of the important issues in this area of health science education.

Two recommendations (VIII & IX) in the Hardin Committee Report deal with existing allied health programs, namely, Dental Hygiene and Medical Technology. Only one recommendation (XIII) deals with the future development of an allied health training program (physician's associate). No recommendation was made concerning the Dietetics program and the Physical Therapy program at South Dakota State University.

The training of allied health professionals has assumed a prominent position in meeting the nation's health manpower needs. Whereas 50 years ago there were only two or three different health professionals assisting the physician in his work, there are now about 12 different health professionals who contribute to patient care.<sup>7</sup> Several questions confront the Regents of Higher Education. Where should fu-

ture allied health training programs be located? Should a School of Allied Health Sciences be established? Can South Dakota afford to develop and support these new training programs in more than one school?

In my opinion, the future development of Allied Health Training Programs in South Dakota should proceed as follows:

1. All new Allied Health Training programs should be developed around the resources of the School of Medicine at The University of South Dakota.
2. A School of Allied Health Sciences should be developed at The University of South Dakota.
3. When a new Allied Health program is developed, there should be at least one full-time faculty member who is a recognized specialist in the field to direct the program.
4. Where possible, clinical (hospital) training for allied health students should be provided by hospitals in South Dakota.

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5. Citizens Commission on Graduate Medical Education: The Graduate Education of Physicians. Chicago, Illinois, American Medical Association, 1966.
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### **AMERICAN MEDICAL ASSOCIATION TO SPONSOR 13TH NATIONAL CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS**

The 13th National Conference on the Medical Aspects of Sports, sponsored by the American Medical Association under the auspices of its Committee on the Medical Aspects of Sports, will be held in New Orleans, Louisiana, at the Jung Hotel on November 28, 1971. The Conference is held annually in conjunction with and on the first day of the Clinical Convention of the American Medical Association.

Those who would like to receive further information concerning the Conference should address the Committee on the Medical Aspects of Sports, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.





# P R E S I D E N T ' S P A G E

Much of this issue of the Journal, as you will note, is devoted to full presentation of the recent Hardin Report on Health Science Education, presented last summer to the Board of Regents by whom it was commissioned. The report is by far the most complete and the most authoritative yet undertaken and will, I hope, provide valid guidelines along which future medical and paramedical education in South Dakota can be shaped and directed.

One of these, you will note, has to do with the future format of the Medical School at the University. The Hardin committee suggests that we begin now to envision a degree-granting program which will enable the young man or woman to complete his medical education here, then hopefully remain in South Dakota.

As you know, recent trends have been evident indicating it may be possible to grant the M.D. degree in less than four years of professional training, largely through shortening of basic science courses, an earlier beginning of clinical study and freeing the fourth year for elective work or eliminating it entirely. The "three-year-degree" thus becomes a distinct possibility, one which the committee suggests be given serious consideration.

The additional cost is not unduly heavy when one compares it with that of the present two-year institution and if hospitals in our larger cities are utilized for clinical training, as the committee itself suggests. The figures and projections are included in detail in the report and I shall not belabor them here. But I do feel we should read the report and reach our conclusions in the light of South Dakota's low ratio of physicians to population — we're at the bottom of the 50 states — and the possibilities for improvement embodied in a full, three-year, degree-granting institution within our borders.

The committee plainly feels that South Dakota has the foundation for a viable, effective health services program which could set South Dakota out as a shining example among the states. Excellent ancillary training facilities are already operating at the University of South Dakota and South Dakota State University to train paramedical and other technical and supporting personnel. Elevation of the medical school to "full" training status with its annual production of well-prepared young men would complete the picture and bring great dividends in improved health care to all South Dakotans.

I urge you to read the Hardin report . . . think it over . . . discuss it. I'm sure you will agree it can be an important milestone in the progress of health education in South Dakota.

G. Robert Bartron, M.D.  
President

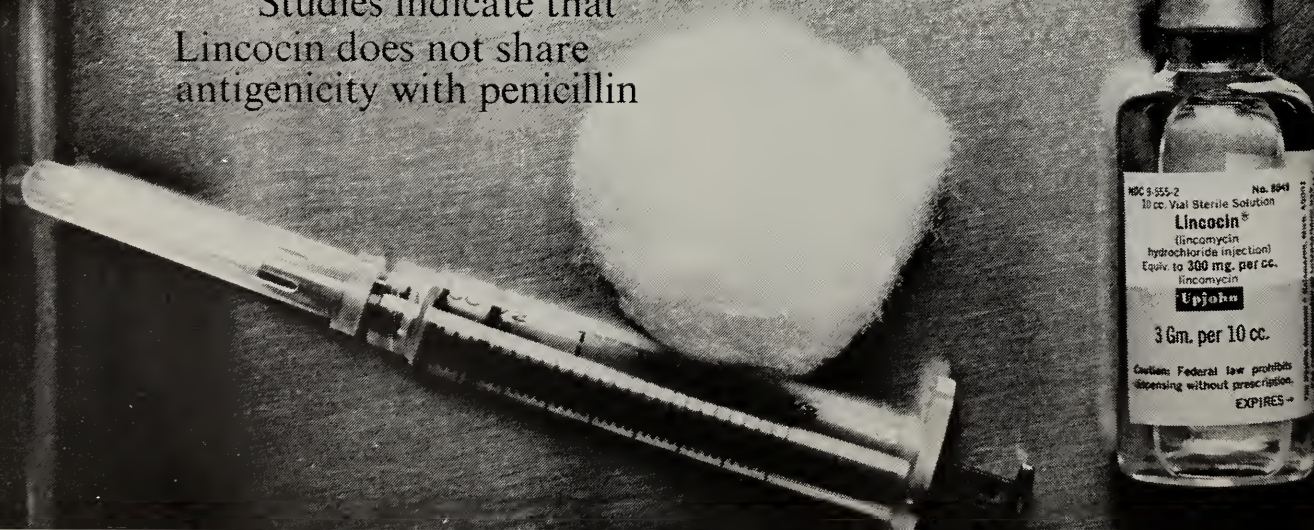


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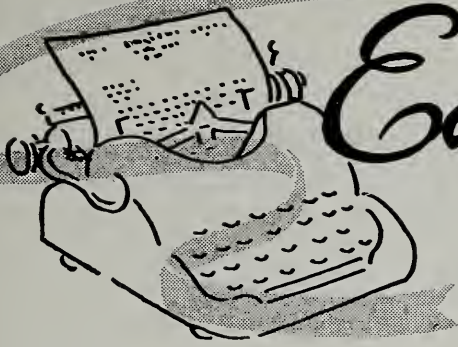
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# Editorial

## THE UNIVERSITY MEDICAL SCHOOL

This November, 1971 issue of the South Dakota Journal of Medicine is of unusual importance to the medical profession of South Dakota. Herein presented is the "Report on Health Science Education—South Dakota" and a studied "A Critique of the Hardin Committee Report on Health Science Education—South Dakota". These significant publications deserve the detailed attention and study of every South Dakota doctor. Only in a State Journal, such as ours, could this material be presented in detail.

South Dakota has an extremely low ratio of physician-to-population but one of the highest longevity rates in the nation. South Dakota physicians have done a good job in taking care of their patients but only by more than average work. It should be noted the average age of the practicing South Dakota doctor is 47 years, while in the rural areas it is considerably older. An increase in the physician population ratio will be needed to meet the ever-increasing demand for more medical care.

Over the years our medical school has given numerous South Dakota boys and girls an opportunity to study medicine at a minimum cost. Of the practicing physicians in South Dakota approximately 20 per cent are graduates of our school.

We feel the school deserves the whole-hearted support of every professional group in South Dakota, particularly in the area of finances which have always been the major problem. In the past South Dakota has chosen to be a debt free, pay-as-you-go State. This problem of adequate financing with a diminishing population requires our thoughtful consideration and active positive help in keeping the school moving forward.

Robert Van Demark, M.D.  
Editor



## AMERICAN PHYSICIANS ART ASSOCIATION

We would like to invite our medical colleagues to become members of our national non-profit organization which is dedicated to furthering art interests of the medical profession; to broadening the physician's knowledge and appreciation of the past and present; to stimulating physician artists to produce works of art in the fields of painting, sculpture, photog-

raphy, graphic arts, design and creative crafts; to holding a national annual exhibition of physicians' art works; and to stimulating regional art exhibitions of physicians' works at local, state and specialty meetings.

If you are interested in becoming a member, or if you wish further information, please contact the President of APAA, A. M. Gottlieb, M.D., 3801 Miranda Avenue, Palo Alto, California 94304.

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Nicholas J. Pisacano, M.D., Secretary  
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A. P. Reding, M.D., Marion, and Bruce Lushbough, M.D., Brookings, participated in a course on psychiatry in family practice at the Menninger Foundation at Topeka, Kansas. Twenty-eight physicians from around the country were selected to participate in the one week course.

\* \* \*

S. A. Kumar, M.D., has opened a general practice in Faulkton. Dr. Kumar graduated from the Mangalore, India medical school and completed his internship training at the Jersey Shore Medical Center in Neptune, New Jersey.

\* \* \*

The Min-Da-Man Society, a society of orthopedic surgeons from Minnesota, the Dakotas, Manitoba and Saskatchewan, has named Robert Giebink, M.D., Sioux Falls, as president elect and H. Phil Gross, M.D., Sioux Falls, secretary of the group.

\* \* \*

South Dakota physicians who have been selected as charter diplomates of the American Board of Family Practice include C. L. Vogele, M.D., and John C. Rodine, M.D., Aberdeen; E. A. Schabauer, M.D., Mitchell; David J. Buchanan, M.D., Huron; and Arthur Semones, M.D., Lead. To achieve this status these physicians completed an intensive two-day written examination and must take another exam every six years for recertification.

G. Robert Bartron, M.D., Watertown, made three presidential visitations during September. Fifty-five physicians from the Sioux Falls District heard Dr. Bartron discuss the changing scope of medical education and encourage South Dakota physicians to upgrade the Medical School to a degree granting institution. The Brookings-Madison District met in Volga with 20 physicians and wives present at which time Dr. Bartron discussed current topics of interest to the Medical Association. Dr. Bartron also made his official visitation to the Yankton District and addressed the members, their wives and Medical School faculty members.

The South Dakota Medical School Endowment Association presented its Distinguished Service Award to R. E. Van Demark, M.D., Sioux Falls, at the Medical-Legal Conference held in Vermillion. This award is presented in recognition of outstanding service to the University of South Dakota School of Medicine.

Paul G. Bunker, M.D., Aberdeen, died at the age of 66. Dr. Bunker established his practice as an ear, nose and throat specialist in Aberdeen in 1932. In 1966 he was awarded the Chevalier Jackson Award for outstanding achievement and accomplishments in his field by the American Broncho - Escophagological Association. In 1970 he received the South Dakota State Medical Association's Distinguished Service Award. Throughout his years in Aberdeen Dr. Bunker has been active in medical affairs and in numerous community projects. Survivors include his widow; two sons, Dr. Thomas G. Bunker, Aberdeen, and James Bunker, Westfield, New Jersey; two daughters, Janet Bunker, Aberdeen, and Mrs. Peter Gibb, Weston, Massachusetts.

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Happy Birthday, Dr. Chassell! Dr. J. L. Chassell of Belle Fourche celebrated his 100th birthday on September 8. He retired from practice a few years ago and now resides at the Northern Hills Nursing Home in Belle Fourche.

John A. Lowe, M.D., has been named director of South Dakota's new Regional Medical Program which was funded separately as of July 1, 1971.

Dakota Midland Hospital in Aberdeen has announced the addition of two physicians to its staff. They are Kennon E. Broadhurst, M.D., a thoracic and cardiovascular surgeon, and Robert E. Campbell, M.D., a pathologist.



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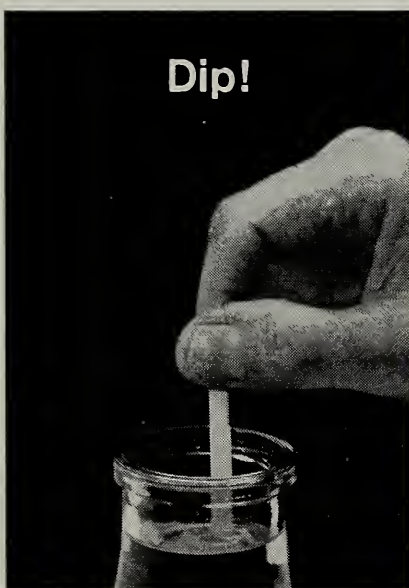
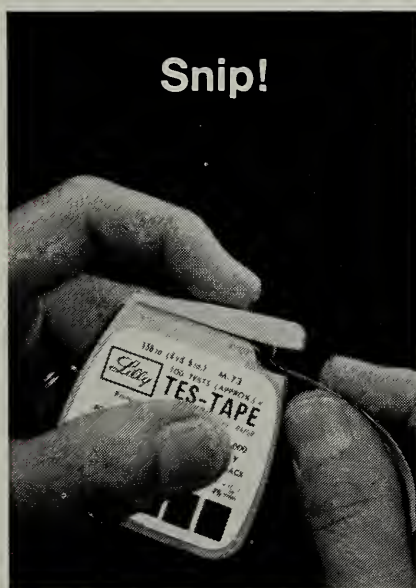
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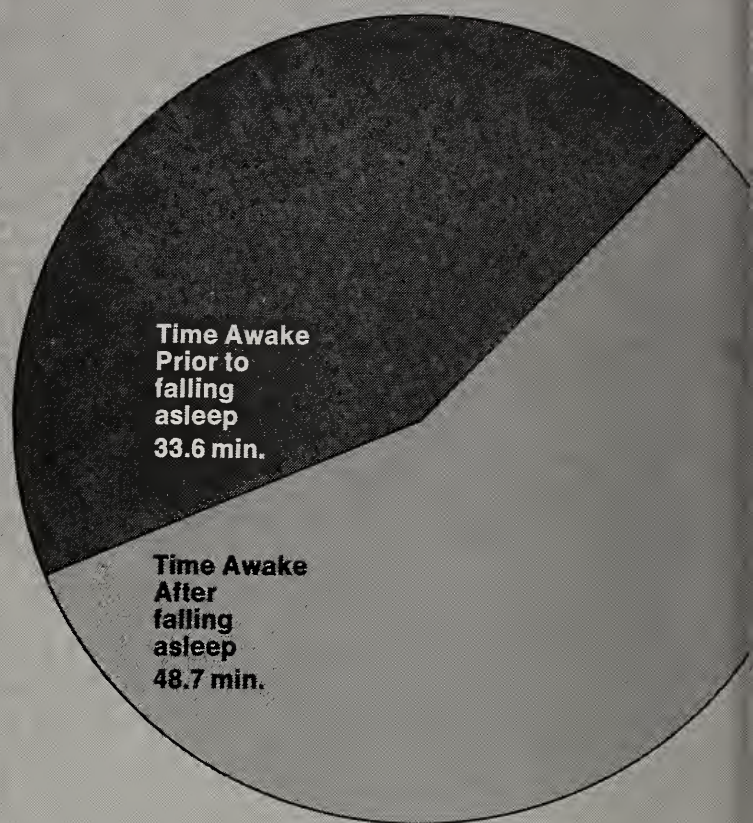
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**References:** 1. Frost, J. D., Jr.: "A System for Automatically Analyzing Sleep," Scientific Exhibit presented at Clinical Convention, A.M.A., Boston, Nov. 29-Dec. 2, 1970, and Aerospace M.A., Houston, April 26-29, 1971.

2. Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley, N.J.

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**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



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# CONTENTS

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Volume XXIV	December 1971	Number 12
-------------	---------------	-----------

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Clinicopathological Conference . . . . . 5

Minutes of the Council Meeting . . . . . 15

President's Page . . . . . 26

This Is Your Medical Association . . . . . 31

Index to Volume XXIV . . . . . 34





# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



**JAMES R. FELKER, M.D.\***  
*Internist - Discussor*

**JOHN F. BARLOW, M.D., FCAP\*\***  
*Pathologist - Editor*

## SIXTY-EIGHT YEAR OLD CAUCASIAN FEMALE WITH GENERALIZED ACHING

### CASE NO. 70-1405

This 68-year old Caucasian, single female entered Sioux Valley Hospital because of swelling of the submaxillary glands associated with soreness. The swelling decreased before admission, but pain in the temporo-mandibular areas remained. She also complained of severe frontal and parietal headaches and aching as well as soreness and tenderness in the neck for some weeks. The headaches were worse with movement and would wake her up at 5-6 A.M. There was no relief with buffered aspirin and no fever or chills. There was no tinnitus or decreased hearing, but there was some vague discomfort on swallowing. There was pain in the eyes, but no diplopia or decreased visual acuity. The patient had intermittent bursitis of the shoulders and some vague generalized stiffness in the morning in the last few weeks. There was mild anorexia recently and a long history of chronic constipation treated with prune juice and milk of magnesia. There was no cough, chest pain, or other cardiorespiratory or gastrointestinal complaints. There was nocturia one time, but no other urinary complaints. The patient was post-menopausal. Past and family history were unremarkable. Outpatient white count was 19,400 with 54% polys, 20% lymphocytes, 31% monocytes, erythrocyte sedimentation rate 63 mm/hr.

**Physical Examination:** Height - 5 feet 2 inches, weight - 121½ pounds, blood pressure - 130 systolic and 74 diastolic, pulse - 92/minute and regular, temperature - 100.2°F. Respirations 20/minute and regular. The patient was well-nourished and well-developed. There was tenderness in front of the right ear. The temporal artery pulsation could not be felt. There was mild conjunctivitis, but no other abnormality of the head and neck. The submaxillary glands were tender and palpable. There was a tender firm nodule or vessel to the right of the thyroid cartilage and overlying hyperemia and blotchy erythematous areas on the upper chest. The lungs were clear to percussion and auscultation. The heart was enlarged to the left slightly on percussion, but rhythm and tones were normal. There were no murmurs. There were no organs, masses or tenderness on abdominal examination. There was no edema or abnormalities of the joints. Posterior tibial pulses were not felt, but popliteal and femoral pulses were equal and active.

**Clinical Pathology Data:** Urinalysis - straw-colored, turbid, specific gravity - 1.030, pH 5.0, trace protein, negative for glucose, small amount of ketone bodies, negative for hemoglobin and bile; microscopic - 150-200 leukocytes/hpf, small amount of epithelium, some bacteria. Hemoglobin - 12.9 gm/100 ml., red count - 3.96 million/mm<sup>3</sup>, hematocrit - 39 Vol %, mean corpuscular hemoglobin - 33 micrograms, mean corpuscular volume - 97 cubic micra, mean corpuscular hemoglobin concentration - 33%. The total leukocyte count was 21,100/mm<sup>3</sup>, with 50% neutrophils, 11% neutrophilic bands, 35% lymphocytes, 4% monocytes. There was slight anisocytosis of the

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Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.



red cells which were normochromic. Platelets were adequate. Erythrocyte sedimentation rate was 54 mm/hr. Cholesterol, triglycerides, prothrombin time, blood urea nitrogen, total protein, total bilirubin, SGOT, LDH, alkaline phosphatase, calcium, uric acid, glucose, protein bound iodine were within normal limits. T<sub>3</sub> resin uptake was 37% (normal 24-36%). Serum protein electrophoresis - total protein - 6.1 gm/100 ml., albumin - 2.9 gm/100 ml., alpha - 1 globulin 0.4 gm/100/ml., alpha - 2 globulin 1.2 gm/100 ml., beta globulin 0.8 gm/100 ml., gamma globulin 0.8 gm/100 ml. The alpha - 2 was elevated and albumin depressed. Differential of blood smears showed monocytosis of 7-15%. Urine culture showed over 100,000 colonies of *Escherichia coli*. Two blood cultures showed no growth. Febrile agglutinins showed no titer of brucella, tularemia, salmonella H and Group O, subgroups B and D agglutinins. There was a 1:80 titer to Salmonella subgroup C. *Proteus* OX19 was 1:40, *proteus* OX2 1:160, *proteus* OXK 1:40. Electrocardiogram was borderline with low amplitude T waves and low R in limb leads but was interpreted as nonspecific. A chest film showed moderate scoliosis and moderate cardiac enlargement. A diagnostic procedure was performed.

DR. FELKER: In summary, we have a 68-yr. old single female with swelling of the submaxillary gland, severe frontal and parietal headaches, and generalized early morning stiffness. On physical examination she had a temperature of 102°F. and tenderness of the temporal mandibular area. There was a tender nodule or vessel to the right of the thyroid cartilage, as well as tender submaxillary glands.

Significant laboratory data included pyuria, an elevated white count of 21,000/mm<sup>3</sup> with intermittent increase in numbers of monocytes, and elevated erythrocyte sedimentation rate of 54 mm/hrs. a depressed albumin, and elevated alpha 2 globulin. Urine culture showed over 100,000 colonies of *E. coli*.

What does this lady have? She presents a clinical picture with many obscure complaints with no specific findings to really "hang your hat on." We can start by saying she had a urinary tract infection manifested by the hundred thousand colonies of *E. coli* per ml. in the urine. She had tender submaxillary glands which always suggest the diagnosis of mumps but this is so unusual in her age group that I will ignore this and concentrate on other areas.

Simple osteoarthritis might explain the generalized aches and pains but I would not have expected the elevated erythrocyte sedimentation rate. A malignancy such as carcinoma might present with these symptoms but I have no other evidence that suggests a carcinoma. Polymyositis might present with this clinical picture but she had no elevated enzymes to suggest muscle damage. Lupus erythematosus is a possibility but there were no LE preps done. Chronic brucellosis might give this picture. The titers for antibodies against brucellosis were negative but this does not rule out the disease. However, I doubt that she had brucellosis. A very significant clinical point was the absence of pulsation in the temporal artery. I feel that a biopsy of the temporal artery was performed and the diagnosis of temporal arteritis or giant cell arteritis was made. Clinically the patient had the syndrome of polymyalgia rheumatica which was associated with the giant cell arteritis.

DR. BARLOW: Dr. Brown, what is polymyalgia rheumatica?

\*DR. MICHAEL BROWN: I'd rather hear Dr. Felker discuss that. (Laughter)

DR. FELKER: In April of 1970 there was a meeting of rheumatologists, ophthalmologists, and immunologists and they decided that this was a distinct syndrome which presented with either shoulder girdle or pelvic girdle pain and often tenderness. There was also an elevated erythrocyte sedimentation rate in most cases. The age limit was generally over 55 years. The syndrome of polymyalgia rheumatica was associated with lupus erythematosus, carcinoma, or giant cell arteritis. In spite of these various associations they felt the syndrome was one that was distinct. Other rheumatoid diseases have been implicated as a causative agent.

There was one case of polymyalgia rheumatica with temporal or giant cell arteritis where the kidney was involved with renal failure and changes in the small vessels of the kidney. Reversal of this pathologic process by steroids was proven by biopsy. There are many more reports of polymyalgia rheumatica in the English and European literature than in the American literature. The members of the conference referred to above felt we were missing many of the patients with polymyalgia

\*Intern, Sioux Valley Hospital



rheumatica and were attributing it to rheumatoid disease. They felt that we should look at our patients with nonspecific complaints more critically.

DR. BARLOW: Dorence, the diagnostic procedure was indeed a temporal artery biopsy. How difficult is this procedure?

\*DR. DORENCE ENSBERG: It is a very simple procedure. The structure is constantly found just in front of the ear. The artery is about 1 cm. in front of the ear and even if you can't feel it; if you make an incision there, you will locate the artery. It is a very easy procedure to take out a segment of the artery.

DR. FELKER: Is this done under local?

DR. ENSBERG: Yes. The involved artery can almost be diagnosed at the time of surgery in that it feels like a vas deferens when it is incised. It has almost a cartilaginous sensation.

DR. BARLOW: Are there any questions?

\*\*DR. MEAD: I was wondering about the white count. There is a great variation in the monocytois. Were these really atypical lymphocytes?

DR. BARLOW: No, I don't think so. I looked at several smears and some of the smears had a great degree of monocytois.

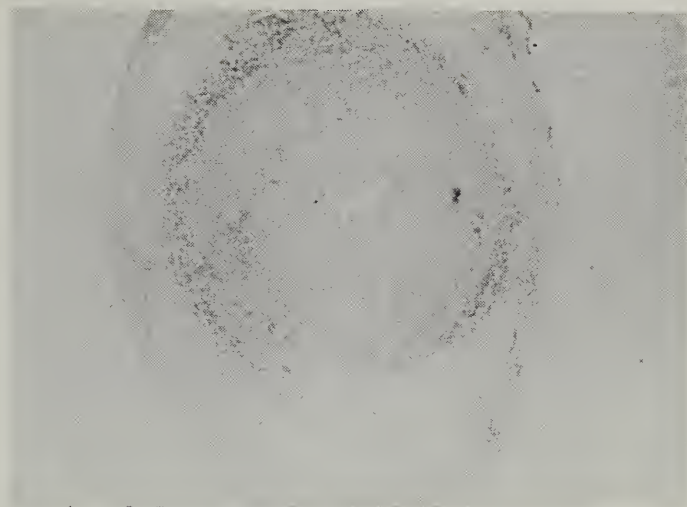
DR. FELKER: You can see monocytois with many chronic diseases.

\*\*\*DR. RICHARD A. JAQUA: With the enlarged salivary glands and conjunctivitis, one wonders about Sjorgren's syndrome. Is there any relationship between Sjorgren's syndrome and polymyalgia rheumatica?

DR. FELKER: No, not that I know of. I should have mentioned, however, that temporal mandibular joint pain is a rather characteristic finding in the syndrome. Also any artery in the carotid distribution may become enlarged and tender in giant cell arteritis.

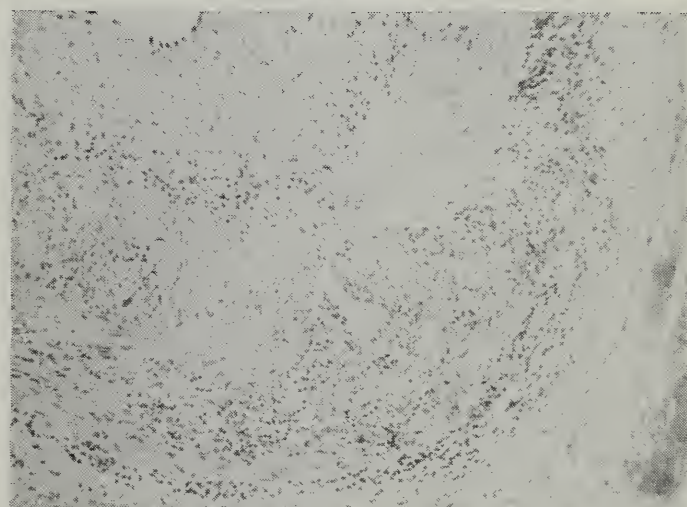
DR. BARLOW: As was guessed the temporal artery did show the changes of temporal arteritis or giant cell arteritis. This first low-power photomicrograph (Fig. I) reveals the characteristic panarteritis. There is marked fibrosis of the adventitia, inflammation of the media

Figure I



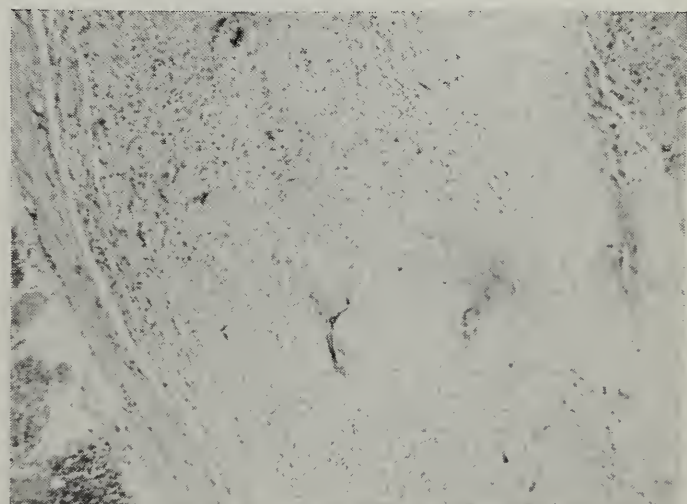
Note markedly thickened artery with pinpoint lumen, and marked fibrous thickening of the intima with narrowing of the lumen. Subsequent photomicrographs show the inflammation in the medial wall as well as the characteristic giant cells (Fig. II & III).

Figure II



Higher power to show inflammation and fibrosis through entire wall.

Figure III



Lower center of field shows characteristic giant cell.

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Temporal arteritis was described by Hutchinson over 80 years ago and it was at one time thought to be limited to the temporal arteries with headaches. However, recently it has been found to be a much more generalized disease. Involvement of the ophthalmic artery with blindness or involvement of cerebral vessels with cerebral infarction had been known for some time. At one time the disease was known as cranial arteritis. In more recent years the systemic nature of giant cell arteritis with involvement of the large and medium-sized arteries anywhere in the body has been recognized.

Coronary, carotid, subclavian, mesenteric, renal, iliac arteries and the aorta have all been affected. The characteristic histology was shown above. As Dr. Felker has pointed out the syndrome of polymyalgia rheumatica with marked elevation of the erythrocyte sedimentation rate and muscular aches and pains can be associated with so-called giant cell arteritis or temporal arteritis. Because it is limited mainly to elderly women and can be crippling due to pain or blindness and because the disease responds markedly to steroid therapy, it is important to consider the syndrome of polymyalgia rheumatica and giant cell arteritis and to establish the diagnosis.

DR. ENSBERG: How does this fit in with polyarteritis nodosa?

DR. BARLOW: Polyarteritis nodosa is simply one of multiple arteritides. This syndrome of giant cell arteritis is one form of arteritis. Another form of arteritis involves mainly the bifurcation of large vessels particularly in the kidneys and has been called the Kausmall type. This is the characteristic type most usually referred to as polyarteritis nodosa. There are aneurysms and nodular swellings of the affected arteries. Another type of arteritis involves mainly the small vessels over the body and has a very poor prognosis. This is called hypersensitivity angiitis. A more self-limited syndrome with arthritis and abdominal pain and involvement of small vessels by inflammation goes under the name of Henoch-Scholein's purpura. It is also called allergic vasculitis. There is another form of arteritis in which there are multiple granulomas of the lung as well as generalized arteritis. This was described by Churg & Strauss. Another form of arteritis is that in which there are granulomas in the upper and lower respiratory tracts as well as

generalized arteritis. This has often been given the name Wegener's granulomatosis.

#### DR. JAMES FELKER'S DIAGNOSES

1. TEMPORAL ARTERITIS (GIANT CELL ARTERITIS)
2. POLYMYALGIA RHEUMATICA SYNDROME

#### FINAL ANATOMIC DIAGNOSES

1. TEMPORAL ARTERITIS (GIANT CELL ARTERITIS)
2. POLYMYALGIA RHEUMATICA SYNDROME

DR. FELKER: I think it ought to be pointed out that you can have the syndrome of giant cell arteritis with no headache or tenderness of the temporal artery. I believe the syndrome of polymyalgia rheumatica is simply a manifestation of generalized giant cell arteritis.

Polymyalgia rheumatica may be associated with a temporal arteritis but it is also associated with other syndromes sometimes in the absence of giant cell arteritis. It is important to remember the diagnosis because patients do respond to steroids.

DR. JAQUA: Then there is a syndrome of polymyalgia rheumatica distinct from giant cell arteritis? I believe these patients have had muscle biopsies which showed no findings.

DR. FELKER: Yes, I think it should be pointed out that you can have a negative temporal artery biopsy and still have the syndrome of polymyalgia rheumatica. These patients should be treated with steroids anyway. The syndrome is self-limited so that they can eventually be taken off steroids slowly. This disease usually lasts about 2 years.

\*DR. KENDALL BURNS: Patients also may get sialadenitis and conjunctivitis secondary to ingestion of iodides or salicylates. When these drugs are withdrawn, the symptoms go away.

\*\*DR. PETERSON: When I was a resident we were cautioned not to give high doses of penicillin to our cases of pelvic inflammatory disease because it might produce an arteritis. Is this true?

DR. FELKER: I don't know.

\*Surgeon, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.

\*\*Obstetrician and Gynecologist, Sioux Valley Hospital.



DR. ENSBERG: The particular patient in the protocol was under the care of Dr. Stephen Kahler and was started on steroids even before the biopsy. He was worried about the eye complications. I believe she has responded very well to the steroid therapy.

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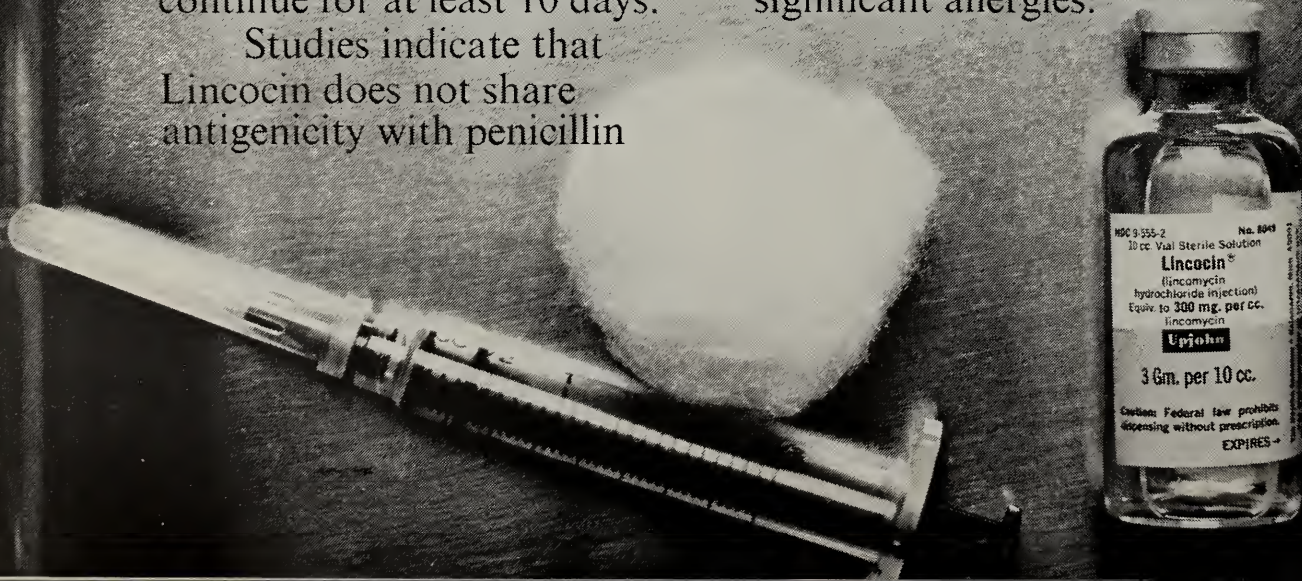


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compounds. However, hypersensitivity reactions such as angioneurotic edema, serum sickness and anaphylaxis have been reported, some of these in patients known to be sensitive to penicillin. As with any antibiotic, Lincocin (lincomycin hydrochloride, Upjohn) should be used cautiously in patients with histories of asthma or other significant allergies.





MINUTES OF THE COUNCIL MEETING  
SOUTH DAKOTA STATE MEDICAL ASSOCIATION

Friday & Saturday  
Sept. 10, 11, 1971

Howard Johnson  
Sioux Falls, South Dakota

The meeting was called to order by the chairman, Fred Leigh, M. D. at 5:00 p.m. on Friday, September 10. The following physicians were present for roll call: Doctors G. Robert Bartron, W. R. Taylor, T. H. Sattler, R. H. Quinn, J. J. Stransky, Fred Leigh, J. T. Elston, J. A. Muggly, David Seaman, G. E. Tracy, Bruce Lushbough, C. L. Swanson, Harvard Lewis, B. J. Begley, E. T. Ruud, M. R. Cosand and J. E. Ryan. Also in attendance were commission chairmen Doctors J. B. Gregg and E. H. Heinrichs.

Dr. Swanson moved that the minutes of the previous Council meeting not be read inasmuch as they have been published. The motion was seconded by Dr. Lushbough and carried.

Dr. Leigh introduced B. J. Begley, M.D. of Sioux Falls, who is the new Councilor from the Seventh District Medical Society.

Mr. Erickson discussed the matter of fees for medical legal testimony. Dr. Lushbough moved that the Council defer action on this matter until the report of the Commission on Medical Service is considered. The motion was seconded by Dr. Seaman and carried.

By unanimous consent of the Council, the matter of the proposed change in the Podiatry law was deferred until the report of the Commission on Legislation and Governmental Relations is considered.

#### FOUNDATIONS FOR MEDICAL CARE

A foundation for medical care is an organization of doctors of medicine sponsored by a local county medical society or a state medical association. It is a separate and autonomous corporation with its own board of directors. Every physician member of the medical society may apply for membership in the foundation for medical care and, upon being accepted, may participate in all programs and activities. Membership on the part of the physician carries with it the responsibility to accept all foundation contract obligations.

A foundation for medical care is concerned with the development and delivery of medical services and a reasonable cost of health care whether privately or publicly financed. A foundation also believes in the American tradition of free choice of a personal physician and hospital by the patient, the fee for service concept, and a local control over and under utilization through peer review.

A foundation for medical care establishes minimum standards for health care as practiced in the community which offers broad coverage within a reasonable cost level. The foundation accepts the service principal of insurance thereby making certain of coverage available to all consumer groups covered by a sponsored program.

Quality of medical care is emphasized through utilization review techniques both over utilization and under utilization by both physician and the patient. The foundation recognizes that health is a community affair, functions in concert with all segments of the community in upgrading existing health care programs and in experimentation and development of new health care programs. The later involvement has specific interest in bringing health care to those segments of the population that do not now have easy access to adequate medical care.

Some of the objectives of foundations would be (1) provide pre-payment plan of medical care so that people can budget medical care at a reasonable price, (2) to provide peer review as may be required by HEW, (3) to have a mechanism of cancelling membership and non-payment of bills to physicians who abuse the contract, (4) to set up guidelines or perimeters in a community for good medical care yet not abusing over or under utilization. It could be used as an educational vehicle such as in the Florida Medical Foundation. It could negotiate contracts for medical care with insurance companies, governmental agencies, private indus-

tries. It would strive to obtain more reasonable medical costs and foster more out-patient care.

The Florida Medical Foundation has been in existence since 1957 and they have as their objectives (1) the improvement of the health and the medical care of the people of Florida, (2) sponsorship of graduate and post-graduate medical education without preference for any person, (3) aid to persons in Florida needing financial charitable assistance who are pursuing an education in medicine, (4) aid to deserving indigent or destitute physicians who, by reason of illness, mental or physical incapacity, need charitable assistance, (5) promotion and sponsorship of medical research exclusive for public purposes and benefits. They have many projects and in 1969 they provided medical peer review for both Blue Shield and Medicare and also a contract with the Department of HEW to develop a program effective in the system for health care.

Inquiries have been made to many states regards medical foundations in an attempt to get information on states of similar size, similar situations, and foundations that involve the whole state rather than a segment of the state. The replies at hand at this time reveal the following: Idaho Medical Association replied that they had not found any reason for instituting such a program. North Dakota Medical Association had appointed a committee to study the foundation concept last spring and will bring in a report this fall; if a foundation were formed, it would be for peer review only. The New Mexico Foundation for Medical Care is just being started and have signed a contract with Medicaid to process claims. In Nebraska, the State Medical Association in April adopted a program on peer review and directed that it be established on a voluntary basis with the Association underwriting all expenses; much depends on national legislation. Florida has had one of the better Medical Foundations in the United States and has been functioning in various capacities since 1957. The Montana Medical Association this spring appointed an Ad Hoc Committee on government relations to become knowledgeable about HMO's and medical foundations and will probably submit their report in another year; they also sent an interesting report of an Ad Hoc Committee which was appointed to study the proposal at the request of OEO. The Medical Association of Georgia has established a foundation and they do peer review and claim processing. The Iowa Medical Association has just formed the Iowa Foundation for Medical Care and will probably be operational by this time. Wyoming State Medical Society formed the Wyoming Health Care Services Company, Incorporated, in February of 1971. In Minnesota, the three-county organization involving Minneapolis-St. Paul vicinity in which over 2,000,000 people will be involved with around 1,250 physicians — The Metropolitan Health Care Foundation — is now operational. There are numerous other foundations in other states, particularly in California, involving localities. Each foundation has its individual needs with different articles of incorporation and different by-laws.

Proponents feel that a foundation might accomplish the foregoing objectives, also that organized medicine is taking a forward step in trying to correct some of the deficiencies in the delivery of medical care, that foundations might be a means to allay nationalization of medical care, to have a physician directed organization delivering medical care rather than consumer directed as they could be — for example H.M.O.'s, to take an active part in the improvement of delivery of medical care rather than the status quo position or "I am opposed and offer no solution."

Those opposed to the foundation concept in South Dakota have many valid arguments, (1) is it necessary, (2) how can it be financed, (3) can peer review and claims payment be done in South Dakota as the foundation concept suggests, (4) can the entire state be included in one organization, (5) what effect will it have on the small hospitals, (6) probably foremost is that it will be to some degree in competition with Blue Shield, (7) what can be accomplished by a foundation that is not already being done; ie. South Dakota State Medical Association and South Dakota Blue Shield.



There is another group, the Association of American Physicians and Surgeons, whose attitude is that they will continue to practice as private practitioners using the present medical care delivery system, they will defy government regulations and hospital accreditation agencies.

The Ad Hoc Committee, after much study and two meetings, has come up with the following suggestions: (1) that visitations be made to successful operational foundations to gather information and become knowledgeable, (2) that visits should be made to practicing physicians' offices who have been members of a foundation for sometime to learn their attitudes, (3) to contact insurance carriers to learn if they would be interested in helping to sponsor such a program, (4) that an educational program be carried out in each district of the State Medical Association if requested so members are more knowledgeable, (5) that assistance be offered by the Committee and the State Medical Association office to sponsor such a program, (6) that an interim report be given at the January Council meeting.

Respectfully submitted,  
Ad Hoc Committee on Foundations  
J. A. Muggly, M.D., Chairman  
J. E. Ryan, M.D.  
E. A. Rudolph, M.D.  
W. R. Taylor, M.D.  
M. Lyso, M.D.

## STATES CONTACTED CONCERNING FOUNDATIONS

### SYNOPSIS

1. **Nebraska**  
No plans at this time. Possibly in future because of needs or national legislation. Sees nothing further for approximately a year.
2. **North Dakota**  
No immediate plans. A subcommittee was appointed and is due to report this fall. Feel that there is no enthusiasm since it would be a duplication of efforts with Blue Shield. However, will await possibility of national legislation.
3. **Montana**  
Taken no action. A subcommittee was established but will not report during current year. OEO offered a grant for HMO but physicians did not support and therefore no grant.
4. **Wyoming**  
Established a Foundation in February 1971. Financed entirely through loan from State Medical Society — later through sales of service such as peer review. Probably will process claims also. Studying possibilities of Foundation providing management service for any HMO's established in State.
5. **Idaho**  
No action taken. Discussed previously but have found no reasons to institute a Foundation.
6. **Iowa**  
Foundation will do peer review. Do not contemplate claims processing at this time. Possibility of additional funding through Federal grant.
7. **Florida**  
Foundation does basically peer review, but has also functioned as fiscal agent for some groups. Is now in process of sponsoring and chartering local Foundations.
8. **Georgia**  
Does claim processing as well as peer review. Financed by a negotiated figure with carrier of Medicare and Medicaid and by a premium percentage on insurance groups.
9. **New Mexico**  
Process claims as well as peer review. Has not begun actual functioning as of yet. Anticipates 20 employees to fulfill tasks.

## EXISTING "Incorporated" FOUNDATIONS

### County or Multi-County

Fresno, California  
Humboldt, California  
Kern, California  
Moore, California  
Monterey, California  
Riverside, California  
Sacramento, California  
San Bernadino, California  
San Francisco Medical Society Health Plan, Inc.  
San Joaquin, California  
Santa Clara, California  
Sonoma, California  
Stanislaus, California  
Tehama, California  
Tulare, California  
San Diego, California  
Cincinnati, Ohio  
Elkhart, Indiana  
Fulton County, Georgia  
Hartford Health Care Plan, Conn.  
Lake County, Indiana  
Maricopa County, Arizona  
Monroe Plan, Rochester, New York  
Multnomah, Oregon  
Northeast Indiana  
Onondaga County, New York  
Pima County, Arizona  
VanDerBurgh County, Indiana  
Dade County, Florida  
Duval County, Florida

### State-Wide

Colorado  
Florida  
Georgia  
Hawaii  
Illinois  
Iowa  
Missouri  
New Mexico  
Wyoming

Dr. Muggly submitted the report of the Ad Hoc Committee to Study Foundations. Dr. Muggly also reported to the Council on his recent visit to the foundation office which is now operating in Minneapolis. Dr. Ruud moved that the Council accept the report and the recommendations listed in the last paragraph of the report. The motion was seconded by Dr. Lushbough and carried.

Mr. Erickson reported on the contributions to date to the Tax Information Program. The Association has pledged \$10,000 to this project and thus far \$5,860 has been contributed. Dr. Bartron moved that the Councilors be instructed to reaffirm the position of the South Dakota State Medical Association in regard to the TIP Program and attempt to obtain additional contributions at the next meeting of their districts. The motion was seconded by Dr. Seaman and carried.

Mr. Erickson discussed the resolution adopted by the House of Delegates regarding the formation of a Sports Council and requested that the Council name a committee to meet with the High School Activities Association. Dr. Bartron moved that V. V. Volin, M.D., Loren Amundson, M.D., Ted Angelos, M.D., Paul Reagan, M.D., Harvard Lewis, M.D., Charles Monson, M.D., James Ryan, M.D. and C. B. Murdy, M.D., be informed that the Council has appointed them to a committee to attend the meeting to be held at the Junior High School in Mitchell, on October 6, at 7:30 p.m. and that any other interested physicians be urged to attend the meeting. The motion was seconded by Dr. Tracy and carried. A report on this meeting will be presented to the Council at the next meeting.

Mr. Erickson discussed the situation which has occurred in the State where a physician performing a surgical procedure also submits a bill for pre-operative and post-operative care in a routine case. Dr. Tracy moved that the Council reiterate its previous endorsement.



ment of the Relative Value Study as a guide for physician billing of surgical care and post operative care in South Dakota. The motion was seconded by Dr. Stransky and carried.

Dr. Stransky suggested that some of the days of post operative care listed in the Relative Value Study are too long, and it would be well to review the days listed for various procedures. Each Councilor was asked to bring to the next Council meeting a list of procedures in which the days of post operative care might be revised.

The meeting then recessed until 8:30 a.m. on Saturday morning, September 11.

The meeting reconvened at 8:30 a.m. Saturday, September 11, 1971.

Dr. Taylor moved that the following physicians be voted honorary life memberships in the South Dakota State Medical Association inasmuch as they meet all the requirements and have been submitted by their various district medical societies: Paul McCarthy, M.D., W. C. Brinkman, M.D., B. S. Clark, M.D. and A. J. Saxton, M.D. The motion was seconded by Dr. Swanson and carried.

The Council considered the appointment of a physician to serve on the Advisory Committee to Selective Service to replace Dr. N. E. Wessman who died this spring. Dr. Swanson moved that Dr. Eldon Bell of Webster be named to this Advisory Committee. The motion was seconded by Dr. Quinn and carried.

The Council considered the request of the State Health Department for an advisory committee to the Crippled Children's Program. Dr. Bartron moved that the Advisory Committee to the Crippled Children's Hospital and School and J. B. Gregg, M.D. be asked to serve as the Advisory Committee to the State Health Department. The motion was seconded by Dr. Seaman and carried. The present Advisory Committee consists of the following physicians: Marion Auld, M.D., R. G. Belatti, M.D., H. Phil Gross, M.D., C. W. Ihle, M.D., H. R. Lewis, M.D., Don H. Manning, M.D., John McGreevy, M.D., C. S. Roberts, M. D., W. H. Saxton, M.D., A. J. Tieszen, M. D., G. J. Van Heuvelen, M.D. and N. R. Whitney, M. D.

## COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

10:00 a.m. Executive Office  
Saturday, August 28, 1971 Sioux Falls, South Dakota

Members present were Doctors Gere, Honke, Ryan, Foley, Hayes, Church, Lillard and Gregg. Also in attendance were Doctors Bartron, Rost, Muggly and Perry. Mssrs. R. C. Erickson, R. Johnson and Richard Culbert also participated in the deliberations.

The meeting was called to order at 10:10. Minutes of the previous meeting were dispensed with by virtue of having been circulated to members of the Commission and published.

1. **Podiatry Law revision.** It was M/S/P (Hayes/Gere) that the SDSMA not oppose South Dakota SB 242 as amended which will be re-introduced at the next legislative session by the podiatrists. Section 1. That SDCL 36-8-1 be amended to read as follows: Podiatry is hereby defined as the medical, surgical or mechanical treatment of the human foot. A podiatrist shall not be authorized to amputate the human foot, a toe or toes, or remove all of any bone other than those bones in the toes, or perform any surgery on the human body at or above the ankle, or administer anesthetics other than local anesthetics.
2. **The law concerning emergency medical services** similar to that proposed in Utah was discussed. It was the consensus of the Commission that the things which would be done by this law are now already in effect in South Dakota and we do not really need such a law. The matter was tabled by the Commission.
3. **Physician licensure laws resolution from the Sev-**

enth District Society and report of the special committee meeting on 8-18-71 were read to the Commission. No action by this Commission is needed at the present time.

4. **Relicensing or recertification of physicians' competence** was discussed. In view of the fact that this subject is receiving considerable analysis on a national level, it was the feeling that until the exact status of the situation has been clarified this Commission and the SDSMA should take no action.
5. **Noise Pollution Control Act** as recently passed in North Dakota was discussed. Doctor Hayes informed the Commission that the Williams Stiger Law passed by the 91st Congress of the U.S. provides for noise regulation on a national level. (National Safety and Health Act of 1970) When implemented this act should do much to relieve the noise pollution problem. No action was taken by the Commission.
6. **Medical School Budget** support by the SDSMA. It was moved, seconded and passed (Foley/Ryan) that the SDSMA support the proposed budget of \$1,200,000 for the Medical School of the University of South Dakota.
7. **Tax legislation.** It was moved, seconded and passed (Ryan/Gere) that the SDSMA await the report of the TIP tax study report before taking any stand upon this matter.
8. **Abortion Legislation.** It was moved, seconded and passed (Gere/Foley) that the SDSMA reaffirm its previous stand concerning this matter.
9. **Change in the Nurse Practice Act.** Doctor Hayes and Mr. Erickson reported on a meeting last week at which changes in the Nurse Practice Act to be introduced into the next session of the legislature were discussed. The Commission felt that the proposed changes as outlined by Dr. Hayes were appropriate and should be endorsed by the Association.
10. **Health Professions Loan Fund.** It was the consensus of the Commission that the SDSMA should support the proposed figure made by the Board of Regents.
11. **Hearing Aid Licensing Law changes.** Doctor Gregg announced to the Commission that it is possible that the Hearing Aid Dealers Association may introduce legislation to modify their licensing law, patterned upon a law recently passed in California. It was recommended that the SDSMA should keep abreast of the legislation and if there is any question, the Committee for the Conservation of Hearing of the South Dakota Academy of Ophthalmology and Otolaryngology should be consulted as to the position of this Association in the matter.
12. It was moved, seconded and passed (Hayes/Lillard) that the Commission request that the Council of the SDSMA empower Mssrs. R. C. Erickson and R. Johnson, and Doctor Gregg to act for the Association at the next meeting of the S. D. Legislature in 1972. In matters of serious concern to the Association the members of the Commission will be polled before definitive action is taken.
13. **Rising Cost of Malpractice Insurance.** Mr. Richard Culbert of Sioux Falls who is an agent for the St. Paul Fire and Marine Insurance Company, one of the companies supplying the majority of malpractice coverage in South Dakota, reported upon the present status of malpractice insurance coverage in this state. It was noted that last year the income to the company from premiums was about \$140,000 while the outflow of capital to pay the cost of settlements of lawsuits filed in this state was about \$230,000. Although it has been re-



quested that all litigation be reported to the SDSMA, most of the lawsuits have been settled out of court. It was also brought out that one of the major factors precipitating litigation in this area has been injudicious remarks made by a physician concerning the care of a patient by another physician. It was the consensus of the Commission that the matter of malpractice problems must be kept in constant awareness by all physicians, and measures taken by each M.D. to avoid the circumstances which lead to such problems. A pamphlet put out by the insurance company was circulated through the Commission, and it was the opinion of the Commission that this leaflet should be made available to each physician in South Dakota.

There being no further business the meeting was adjourned at 12:30.

Respectfully submitted,  
J. B. Gregg, M.D., Chairman  
Commission on Legislation and  
Governmental Relations

### LEGISLATION

1. Refer Senate Bill #242 amended back to the Council and recommend acceptance of the bill. Association would not oppose the change.
2. Emergency Medical Service — no action
3. Physician License Laws — no action
4. Malpractice — no action
5. Relicensing — no action
6. Noise Pollution — no action
7. Medical School — \$1,200,000
8. Tax — endorse and wait for TIP report
9. Abortion — same position
10. Health Loan Fund — support

Dr. Gregg discussed the report of the Commission on Legislation and Governmental Relations. He stated that the Commission also wished to indicate that they do not favor the inclusion of podiatrists' services under Blue Shield. Dr. Gregg indicated that Mr. Erickson has been instructed to obtain a copy of the law on noise pollution and to furnish a copy to the South Dakota State Medical Association and the South Dakota Academy of Ophthalmology and Otolaryngology.

A discussion was held on the malpractice situation in South Dakota. Dr. Swanson moved that Mr. Erickson be directed to review the reports on file in the Insurance Commissioner's office on malpractice insurance during the legislative session and to report back to the Council at the spring meeting on the information contained therein. The motion was seconded by Dr. Ryan and carried.

Dr. Quinn moved that the Commission continue to study the malpractice problem and to keep the Council informed of developments. The motion was seconded by Dr. Seaman and carried.

Dr. Bartron discussed the proposed change in the Podiatry Law. Dr. Swanson moved that the Council accept the recommendation of the Commission on Legislation and Governmental Relations concerning this proposed change. The motion was seconded by Dr. Lewis and carried.

Mr. Erickson discussed the proposed change in wording in the Nurse Practice Act. The Council discussed the implications of the change. Dr. Swanson moved that the Council approve the following change in wording in the Nurse Practice Act:

"The foregoing shall not be deemed to include the practice of medicine or dentistry except that a nurse may perform such acts delegated by a physician licensed under the medical practice act of South Dakota or by the medical staff of an employing medical facility licensed by the State of South Dakota."

The motion was seconded by Dr. Taylor and carried.

Dr. Ryan moved that the Council accept the report of the Commission on Legislation and Governmental Relations as amended. The motion was seconded by Dr. Lushbough and carried.

The Council considered the report of the Commission

on Internal Affairs. Dr. Tracy moved that the Council accept the report. The motion was seconded by Dr. Ruud and carried.

### COMMISSION ON INTERNAL AFFAIRS

9:30 a.m.

Executive Office

Saturday, August 28, 1971 Sioux Falls, South Dakota

The Commission on Internal Affairs met at 9:30 a.m. Present were Doctors E. A. Rudolph, chairman, E. J. Perry, James Shaeffer, C. S. Roberts and Kenneth Muckala. Also attending the meeting were Doctors Mary Sanders and Robert Hayes.

The Commission reviewed the expenditures of the Association for the first three months of the fiscal year.

A report on the Health Careers Loan Fund, which is utilizing the funds of the old Benevolent Fund of the Association and Auxiliary was made. The report was accepted by the Commission. Dr. Muckala moved that the Commission recommend to the Council that inasmuch as the fund has \$11,000 in a regular savings account, that \$5,000 be used to purchase a one year certificate of deposit and that \$2,000 be used to purchase a three month renewable certificate of deposit in order to obtain better interest income. The motion was seconded and carried. The Commission noted that the guidelines for this program state that \$5,000 per year may be loaned each year. The Commission indicated that when this limit is reached in 1971, no additional loans should be made until 1972.

The Commission discussed a proposal to charge physicians in the Association Blue Shield-Blue Cross group a service charge for billing which could then be used to supplement the Association's income. The Commission recommended that this proposal be tabled at the present time. If at sometime in the future additional income is necessary, the proposal could be reconsidered for possible implementation.

The meeting adjourned at 10:40 a.m.

The Council considered the report of the Commission on Communications and Liaison.

### COMMISSION ON COMMUNICATIONS AND LIAISON

10:30 a.m.

Executive Office

Saturday, August 28, 1971 Sioux Falls, South Dakota

The meeting was called to order by John Barlow, M.D., Chairman of the Commission on Communications and Liaison. Those present for roll call were Doctors Barlow, Van Demark, Stensrud, Sanders, and Amundson. Dr. G. Robert Bartron also attended a portion of the meeting.

The Commission dispensed with the reading of the minutes of the previous meeting inasmuch as they have been published.

Bob Johnson reviewed the progress of the plans for the Medical-Legal Symposium to be held September 18 for the Commission's information. He stated that the program has been set, but that the physician registration is very low to date.

The Commission considered the Community Health Week packet provided by the American Medical Association and determined that the State Association should publicize information on venereal disease as a public service during Community Health Week, October 17-23, 1971. The Commission also urged physicians to make personal contacts with radio and T.V. stations and newspapers asking them to publicize information on venereal disease as a public health service.

Mrs. Olga Ulberg, executive director, and Mr. Clayton Mullen, president, South Dakota Nursing Home Association, discussed with the Commission members problems involving patients in nursing homes and regulations, state and federal, involving the care of these patients. Problems discussed are as follows:

1. Nursing homes provide three levels of care, intermediate care, nursing care, and intensive care. Each nursing home is licensed for one, and sometimes two, levels of care, thus forcing the transfer of patients from home to home dependent on



their health requirements. The state has implemented a placement team to determine which type of care a patient requires; however, it does not provide for the care of patients from the time they are released from one type of care until they can be placed in another. The Nursing Home Association feels the physician should be the only one to determine what type of care a patient should have.

2. The State has also determined that patient records must be reviewed periodically. The Nursing Home Association requested that the physicians assist them in establishing a simplified utilization and review system which can be implemented to comply with state regulations.

The Commission recommended that the Council discuss these problems and make necessary recommendations for further study. The Commission directed the executive office to apprise the Liaison Committee to the Welfare Commission of these problems so that it may be discussed at their joint meeting in September.

The Commission reviewed the Self-Interview Form provided by the State Health Department for the reporting of venereal diseases. Dr. Stensrud moved that the Commission recommend the use of this form. The motion was seconded by Dr. Sanders and carried.

Bob Johnson reported that the booth at the SDEA convention this fall was cancelled due to a lack of personnel and funds.

The meeting adjourned at 12:15 p.m.

Dr. Tracy moved that the Liaison Committee with the Welfare Department be authorized to speak for the medical profession regarding nursing home regulations at the next meeting of the Welfare Commission. The motion was seconded by Dr. Ruud and carried.

Dr. Swanson moved that the Council accept the report of the Commission on Communications and Liaison. The motion was seconded by Dr. Seaman and carried.

The Council considered the report of the Commission on Scientific Medicine. Dr. Tracy moved that the report be accepted by the Council. The motion was seconded by Dr. Begley and carried.

## COMMISSION ON SCIENTIFIC MEDICINE

2:00 p.m. Executive Office  
Saturday, August 28, 1971 Sioux Falls, South Dakota

The Commission met at 2:00 p.m. in the executive office of the South Dakota State Medical Association. Dr. James Larson served as acting chairman in the absence of Dr. E. H. Heinrichs, chairman. Present were Doctors R. R. Thornton, N. B. Saoi, R. B. Leander, W. Kovarik, T. A. Angelos, James Larson and E. A. Schabauer.

The Commission discussed continuing medical education programs in South Dakota and the possibility of setting up an accreditation program in the state. The feeling was expressed that this program should be handled through the district medical societies. Dr. Larson suggested that everyone on the Commission keep the subject in mind and that in the future, specific recommendations should be formulated by the Commission.

A discussion on the scientific program for the 1972 annual meeting was held. The format was discussed and several suggestions were made for possible changes for the 1972 meeting.

Dr. Heinrichs was instructed to contact Dr. Gerald Solomons of the University of Iowa and invite him to present a paper on Dyslexia and Learning Disabilities. Dr. Kovarik was instructed to contact Dr. Thomas G. Skillman and invite him to present a paper on Endocrinology in General Practice. Dr. Angelos will attempt to obtain the name of an orthopedic surgeon in Texas for consideration by the Commission.

Several additional subjects were discussed as possible topics for the annual meeting. They included oncology, cardiac arrhythmias, dermatology, allergies, autoimmune diseases, RH incompatibilities and stress incontinence. A meeting will be held at 9:00 a.m. on Saturday, September 25, at the executive office to final-

ize arrangements for the program.

The meeting was adjourned at 4:30 p.m.

Dr. Bartron moved that the Council reaffirm the format of the annual meeting—one day scientific meetings, two days business meetings and indicate that this format should be continued at the present time. The motion was seconded by Dr. Tracy and carried.

The Council considered the report of the Commission on Medical Service.

## COMMISSION ON MEDICAL SERVICE

1:30 p.m. Executive Office  
Saturday, August 28, 1971 Sioux Falls, South Dakota

The meeting of the Commission on Medical Service was called to order at 2:00 p.m. Those present for roll call included Doctors Gerber, Mutch, Jones, Hubner and Rud. Dr. G. Robert Bartron also attended a portion of the meeting.

Bob Johnson briefly discussed foundations and stated that an Ad Hoc Committee has been appointed to study the foundation concept. The Commission decided to take no action until the Ad Hoc Committee makes a report.

Dr. Henry Parrish reviewed the Hardin Report on the Medical School for the Commission's information. After lengthy discussion the Commission made the following recommendations:

1. Dr. Hubner moved that the Commission recommend that all new allied health programs be under the direction of the University of South Dakota. The motion was seconded by Dr. Jones and carried.
2. Dr. Hubner moved that the Commission recommend to the Board of Regents that they utilize the consultation of the Vice President in Charge of Health Affairs at the University of South Dakota regularly for health science education. The motion was seconded by Dr. Mutch and carried.
3. Dr. Hubner moved that the Commission recommend to the Council that the State Association endorse the principle of a three-year degree granting medical school program. The motion was seconded by Dr. Jones and carried.
4. Dr. Jones moved that the Commission recommend that the first year medical class be increased to 64 students. The motion was seconded by Dr. Mutch and carried.

The Commission discussed the possibility of establishing a relative value unit for medical-legal testimony. Dr. Hubner moved that the Commission recommend that a fee of \$50 to \$100 per hour be charged by physicians for medical-legal testimony, which should include not only court time, but hours spent in writing and researching reports and in pretrial hearings. The motion was seconded by Dr. Rud and carried.

Dr. Gerber reviewed the proposed changes in licensure regulations for the Commission's information. Dr. Mutch moved that the regulations as proposed be submitted to the Council as studied and approved. The motion was seconded by Dr. Hubner and carried.

The meeting adjourned at 4:00 p.m.

Dr. Tracy moved that the report be amended to read in #3 "that the State Association endorse the principle of a degree granting medical school program" eliminating the words "three year." The motion was seconded by Dr. Quinn and carried.

Dr. Tracy moved that the report be amended to read in #4 "that the first year medical class be increased to the maximum capacity at the earliest possible time." The motion was seconded by Dr. Begley and carried.

Dr. Sattler moved that the Council inform the Board of Regents that we approve the recommendations contained in the Hardin Report and that we are pleased that the report contains the suggestions and recommendations of the Council and the South Dakota State Medical Association which have been promulgated in recent years. The motion was seconded by Dr. Quinn and carried.

Dr. Quinn moved that the Council extend its thanks and appreciation to Dr. Gerald Tracy for his work at the School of Medicine and give him a vote of confi-



dence. The motion was seconded by Dr. Ruud and carried.

The Council discussed the recommendation of the Commission regarding medical legal testimony. Dr. Stransky moved that the Council recommend that physicians continue to make a reasonable hourly charge commensurate with services rendered for medical legal testimony. The motion was seconded by Dr. Tracy and carried.

Mr. Erickson discussed the proposed changes in the regulations of the Board of Medical and Osteopathic Examiners.

## REGULATIONS SOUTH DAKOTA STATE BOARD OF MEDICAL AND OSTEOPATHIC EXAMINERS

Proposed regulations to be adopted by the Board effective July, 1972.

### 1. Licensure by examination

- a. No person shall practice medicine or osteopathic medicine, surgery, obstetrics or any of their branches in the State of South Dakota unless he shall have made application to the State Board of Medical and Osteopathic Examiners through the Secretary thereof, upon such forms and in such manner as shall be adopted and prescribed by said Board, and shall have obtained from said Board, and possesses in full force and virtue, a valid license to do so.
- b. Each applicant for a license must be a citizen of the United States or shall have declared his intention of becoming a citizen, and must make an affidavit setting forth his age, place of residence, preliminary education, time and place of each course of medical lectures, and date of graduation. Blank forms can be secured from the Executive Secretary. The affidavit must be corroborated by the exhibition of his diploma; and he must also furnish a certificate of good moral character signed by two reputable physicians who are personally acquainted with him. He must also furnish with his application an unmounted photograph of himself taken within the preceding year. The applicant shall certify that the photograph is a true likeness of himself. The photograph shall remain the property of the Board.
- c. Each applicant must present a certificate indicating that he has fulfilled the requirements of the Basic Science Act.
- d. A fee of forty dollars (\$40.00) must accompany each application. No portion of this fee is returned in case of failure, or failure to appear.
- e. On and after July 1, 1949, the State Board will recognize as reputable medical colleges, only those colleges classified and recognized as Class A by the Council on Medical Education and Hospitals of the American Medical Association.
- f. On and after July 1, 1949, the State Board will recognize as reputable osteopathic colleges only those colleges classified and recognized as "approved" by the Bureau of Professional Education and Colleges of the American Osteopathic Association.
- g. Hospital Internship—Applicants for license must present a certificate showing that he has served not less than one year as an interne or resident in a thoroughly equipped Standard Hospital or Hospitals, approved by the Board; or its equivalent determined by the Board.
- h. Regular examinations will be held not less than twice a year at such places as the Board may designate. Examinations shall be written, must be conducted in the English language and shall include anatomy, physiology, chemistry, pathology, bacteriology, therapeutics and practice of medicine, surgery, obstetrics, pediatrics, gynecology, diseases of the eye, ear, nose and throat, medical jurisprudence, skin and venereal diseases, hygiene and sanitation, and in addition

applicants trained in osteopathic medicine shall take an additional examination in the application of osteopathic fundamentals. If such applicant holds a valid South Dakota Basic Science certificate, he shall be exempt from writing the Basic Science subjects listed herein.

- i. Candidates are not permitted to communicate with each other in any manner whatever, during the examination; to consult notes or books or use any dishonest or unfair means of securing or imparting information. Any candidate who disregards this rule will be ineligible for further examination.
- j. Each candidate will be required to appear in person before the Board for identification and at the same time must present his diploma for verification.
- k. A general average of seventy-five percent and not less than sixty percent in any subject must be attained in order to secure a license.
- l. Each applicant will be identified by a number and such number shall be placed on all examinations. No other marks of identification must appear, if so, said papers will be discarded and no credit given for the answers thereon.
- m. All applications for license, together with the fee for same, must be in the hands of the Executive Secretary thirty days prior to the day of examination.

### 2. Licensure by reciprocity

- a. A physician may apply for licensure by reciprocity, provided
  1. He presents a current license valid in the State from which he seeks reciprocity, or a current National Board of Medical Examiners certificate.
  2. He presents certification showing an average grade of not less than seventy-five percent and that the subjects in which he is examined are essentially the same as those given in South Dakota and are acceptable to the Board as being "essentially the same."
  3. He shall submit his application on the form prescribed by the Board and pay a fee of \$90.00.
  4. He shall show evidence of graduation from a Class A approved medical or osteopathic college.
  5. He presents a valid South Dakota Basic Science certificate.
  6. He is a citizen of the United States or has declared, in writing, his intention to become a citizen.
- b. Licensure by reciprocity may be accomplished in person at any regularly scheduled meeting of the Board or between meetings of the Board by presenting his credentials to one member of the Board at his business address and to the executive office of the Board.
- c. Credentials needed for presentation include South Dakota Basic Science certificate, previous state's license or National Board certificate, internship or residency certificate and medical school diploma.
- d. Hospital Internship—Applicants for license must present a certificate showing that he has served not less than one year as an interne or resident in a thoroughly equipped Standard Hospital or Hospitals, approved by the Board; or its equivalent determined by the Board.
- e. Only those licensed through examination are eligible for a license through reciprocity. A license or certificate issued in another state through reciprocity is not acceptable for reciprocal registration in South Dakota.
- f. Copies of the medical practice act and rules and regulations regarding examinations of candidates for license to practice medicine or osteopathic medicine, surgery, and obstetrics in this state may be secured by addressing the Secre-



tary of the State Board of Medical and Osteopathic Examiners.

### 3. Licensure of foreign graduates

- a. Graduates of medical schools outside the United States and Canada and not approved by the Board must hold a permanent certificate from the Educational Council for Foreign Medical Graduates.
- b. Such foreign graduates shall produce evidence of having received an internship of not less than one year's duration in the United States or residency training that the Board considers to be equivalent to such internship.
- c. American nationals who are graduates of foreign medical schools shall not be required to be certified by the Educational Council for Foreign Medical Graduates.

### 4. Duplicate license

In all cases where a duly qualified and legally licensed practitioner in the State of South Dakota shall make application to the State Board of Medical and Osteopathic Examiners for a duplicate certificate of license, where the original has been destroyed by fire, or for other sufficient reason, he shall make application accompanied by a proper affidavit and setting forth the facts as they may be, together with a fee of \$5.00. The Secretary of the State Board of Medical and Osteopathic Examiners shall procure the duplicate certificate of license and forward same to the applicant.

### 5. Temporary licenses

A temporary license for a period of four years may be issued to a foreign medical school graduate who does not comply with Regulation 3, above, under the following conditions:

- a. He has failed to pass the E.C.F.M.G., or
- b. He has not received an internship or its equivalent in the United States, and
- c. He accepts a position in a State-owned and operated institution on a full-time basis.
- d. He shall pass the Basic Science examination and receive a valid certificate.
- e. He shall pass the Board's regular examinations.
- f. Such license shall be valid only while such license holder is employed in an institution designated in (5) c above.
- g. Upon completion of the four years, the Board, at its discretion, may issue a full license without further examination.

### 6. Locum Tenens Permits

Faculty members of established and recognized medical educational institutions may be granted locum tenens licensure in this State if they meet the following standards:

- a. Consultant must have teaching appointment in a recognized teaching institution.
- b. Authorization and identification by consultant's teaching institution.
- c. Teaching clinic organized within licensed hospital in South Dakota.
- d. Authorized and supported by professional staff of hospital.
- e. Authorized and supported by the district medical society.

Dr. Tracy moved that the Council accept the report of the Commission on Medical Service as amended. The motion was seconded by Dr. Taylor and carried.

Mr. John Zimmer appeared before the Council to discuss the proposed increase in the Basic Science renewal fee. Dr. Tracy moved that the Council endorse the change in the Basic Science Law allowing an increase in the renewal fee to not more than \$20 per year. The motion was seconded by Dr. Cosand and carried.

The Council suggested that Mr. Zimmer prepare a summary of his report which will be sent to the offi-

cers and councilors of the State Association along with a copy of the article he recently wrote for the SOUTH DAKOTA JOURNAL OF MEDICINE. In addition, Mr. Zimmer will be available to appear at district medical society meetings to discuss this matter at the invitation of the societies.

A discussion was held on the practice of chiropractic in South Dakota. It was decided that information should be obtained on the legal scope of practice for chiropractors in South Dakota to determine what the limitations legally are. The executive office was directed to gather data on chiropractic activities and report back at the next meeting of the Council. Physicians were requested to provide specific information to the executive office for documentation.

The date of the next Council meeting will be set by Dr. Leigh and Mr. Erickson. Councilors will be advised as soon as possible.

The meeting adjourned on motion at 11:15 a.m.

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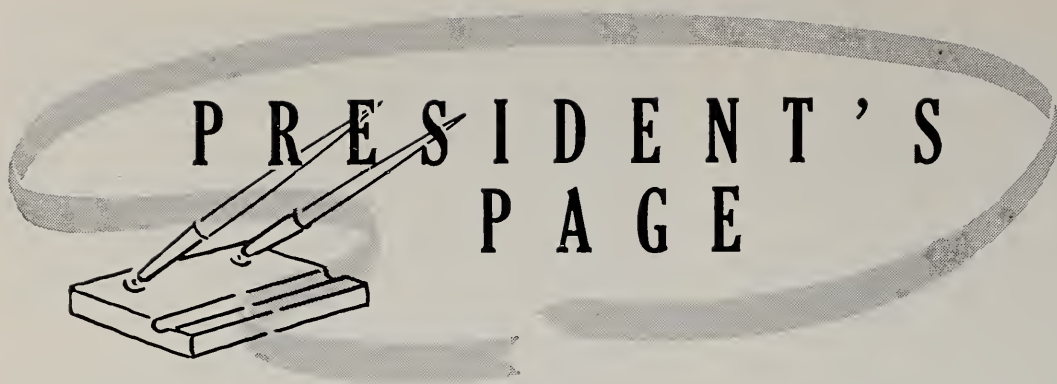
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Sioux Falls

Rapid City





The season is upon us when we pause to count our blessings, take stock of the year we are about to complete, and look ahead to the "whole new ballgame" stretching out before us.

The months which have passed since my elevation to the presidency of our association have been singularly satisfying ones for me. They have brought a new insight into the purposes of our organization and a new pride in our profession. They have enabled me to renew friendships and make new friends and I am certain that by the time my term ends next summer it will have been a year to cherish and remember.

As we approach the beginning of 1972, one fact stands out: it will be a presidential election year with all that that portends for the future of American medicine. There will be great effort made to enlist our support, both verbal and financial, and many thousands of words spoken and written on the status and future of medicine in a nation and an era in which unrest and change are cardinal elements.

No one can know, of course, what the future holds for us as citizens and physicians. But by our interest, concern and activity, we can have a part in helping shape that future. If nothing else, we can refuse to delegate it by default.

An election year presents us with a golden opportunity to take a hand in the political course which will be decided at the ballot boxes and which eventually will decide the fortunes of the medical profession. We can express ourselves as candidates, as supporters of candidates sympathetic to our cause, and as concerned citizens determined not to let an election pass without informing ourselves of the issues and candidates and then casting our ballots as we think best. It will, in short, be a year in which we can and should put citizenship high on our list of "things to do."

As citizens and members of a closely-knit calling with a tremendous stake in the future as 1972's elections will help decide that future, we really have no choice but to "get in there and fight!" What happens next year will affect each of us personally and professionally.

I am confident South Dakota's medical segment, which has never been slow to assert itself and let its views be known, will continue to do so in 1972. No one can speak more effectively for us than we ourselves.

Mrs. Bartron joins me in extending to each of you and your families our best wishes for a Merry Christmas and a satisfying New Year.

G. Robert Bartron, M.D.  
President



This is your

# MEDICAL ASSOCIATION

**Patrick McGreevy, M.D.**, Sioux Falls, and **Kenneth Halverson, M.D.**, Yankton, were inducted into the American College of Surgeons at a recent meeting in Atlantic City.

\* \* \*

St. Joseph's Hospital, Deadwood, announced the association of two new physicians. They are **A. J. Javurek, M.D.**, a native of Sioux Falls, and **Reuben Trinidad, M.D.**

\* \* \*

Mayo Clinic is expanding its continuing education function outside of Rochester by inaugurating a Regional Visiting Physician Program. Under this program, a Mayo staff member might visit a hospital or group of physicians to conduct seminars or to lecture. This physician could also make hospital rounds with those physicians who so desire to discuss problems presented by the patients seen.

\* \* \*

**Ralph Erdmann, M.D.**, Mitchell, has been promoted to the rank of lieutenant colonel, medical corps, Army National Guard and is now company commander of the 730th Medical Company.

\* \* \*

**Parry Nelson, M.D.**, Watertown, attended a three-day post-graduate course in obstetrics and gynecology at the University of Minnesota.

**G. Robert Bartron, M.D.**, President of the South Dakota State Medical Association, met with the Huron District Medical Society and discussed programs of the Association. About twenty doctors and their wives attended the meeting.

\* \* \*

**The Second Annual AAFP scientific meeting** held in conjunction with the South Dakota Chapter of OB-GYN had a gratifying increase in attendance and was extremely well received. It was unanimously decided to continue this format of sponsoring the Black Hills Seminar on the third weekend of August to coincide with the Rapid City Range Days rodeo and fair. The latter consideration allows for more family participation

and fun. Your ideas concerning the meeting and its scientific content are solicited.

Officers:

President:

L. J. Sweeney, M.D.  
1320 South Minnesota Ave.  
Sioux Falls, S. D. 57105

President-Elect:

Bruce C. Lushbough, M.D.  
Brookings Clinic  
Brookings, S. D. 57006

Vice President:

Wenzel J. Kovarik, M.D.  
717 St. Francis  
Rapid City, S. D. 57701

Secretary:

Loren Amundson, M.D.  
1505 South Minnesota Ave.  
Sioux Falls, S. D. 57105

A resounding note of thanks is due retiring president, Donald L. Scheller, M.D., and retiring secretary, Paul K. Aspaas, M.D., for jobs well done.

Last winter four or five doctors representing large and small communities traveled to Vermillion and invited any medical students interested in discussing family practice to meet with them. The response was tremendous. A large number of students turned out and the evening was thoroughly enjoyed by students and doctors alike. The doctors felt that the AAFP had a mandate to form a Family Practice Club. To be effective, a great number of interested physicians need to be involved. Please drop a note to Dr. Loren Amundson indicating your willingness to participate. Plan on your wives as

**YOUR  
CONTRIBUTION  
TO THE  
SOUTH DAKOTA  
MEDICAL SCHOOL  
ENDOWMENT  
FUND  
IS NEEDED**



well as the students' wives being involved. AAFP membership is not necessary — only your interest.

The South Dakota Chapter of AAFP has 114 members. This is about 50 percent of our potential. Again, a note to Dr. Amundson and your annual dues will get you signed up.

L. J. Sweeney, M.D.  
President, AAFP

\* \* \*

The American Board of Family Practice has named R. C. Jahraus, M.D. and B. O. Lindbloom, M.D. of Pierre as charter diplomates.

\* \* \*

T. H. Sattler, M.D., Yankton, served as chairman of Diabetes Week in Yankton.

\* \* \*

Mrs. Judd Mabee and Mrs. Harvard Lewis, Mitchell, attended the fall leadership conference of the Women's Auxiliary to the American Medical Association in Chicago.

**George W. Mills, M.D.,** 82, a doctor and civic leader formerly from Wall for more than 50 years and a 22-year veteran of the South Dakota House of representatives died in Spokane, Washington, following an illness.

Governor Richard Kneip has named **Robert Hayes, M.D., Pierre, Charles Tesar, M.D., Rapid City, John Lowe, M.D., Vermillion, Henry Parrish, M.D., Vermillion and G. E. Tracy, M.D., Watertown,** as physician members to serve on a special commission to study the feasibility of establishing a three-year degree granting medical school in South Dakota.

\* \* \*

About 550 people from the Eureka community attended a banquet honoring **George Mc-**

**Intosh, M.D.** Dr. McIntosh was presented with a plaque and a personalized physicians handbook for his 25 years of service to the community.

**D. Max Reade, M.D.,** 42, of Yankton, was killed recently in an automobile accident. Dr. Reade was associated with the Medical Clinic, chief of staff of Sacred Heart Hospital, a member of the South Dakota State Medical Association and vice president of the South Dakota Heart Association. He is survived by his widow, Lois; three children, Douglas, Grant and Jill; his mother, Mrs. Susan Reade, Sioux Falls; and a twin brother, Gerald, Yankton.

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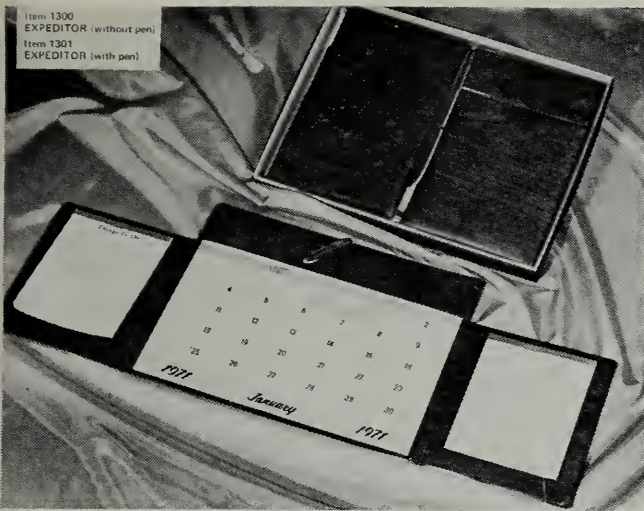
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# INDEX TO VOLUME XXIV By TITLE, SUBJECT AND AUTHOR

	Month	Page		Month	Page
<b>A</b>			Information Submitted for Social Security Disability Purposes -----	Sept.	20
Alcohol Detection Tests: A Source of Error			<b>C</b>		
Editorial			Clinicopathological Conference		
J. B. Gregg, M.D. -----	July	30	Sixty-five Year Old Female With Auricular Fibrillation and Sudden Onset of Coma		
Award Page -----	Sept.	22	J. F. Barlow, M.D. and J. W. Donahoe, M.D. -----	Jan.	25
<b>B</b>			Sixty-six Year Old Caucasian Female With Progressive Somnolence		
Baker, A. Sherwood, M.D.			J. F. Barlow, M.D. and E. W. Sanderson, M.D. -----	Feb.	27
Family Practice: Present and Future -----	Feb.	12	Fifty-nine Year Old Carpenter With Pain in the Right Foot and Calf of Four Weeks Duration		
Barlow, John F., M.D.			J. F. Barlow, M.D. and Shannon Turney, M.D. -----	Mar.	27
Clinicopathological Conference			Sixty-eight Year Old Woman With Abdominal Pain, Weakness and Fever		
J. W. Donahoe, M.D.			J. F. Barlow, M.D. and Dorence L. Ensberg, M.D. -----	Apr.	27
Sixty-five Year Old Female With Auricular Fibrillation and Sudden Onset of Coma -----	Jan.	25	An 80 Year Old Caucasian Female With Fever of Unknown Origin		
Everett W. Sanderson, M.D.			J. F. Barlow, M.D. and W. O. Rossing, M.D. -----	May	24
Sixty-six Year Old Caucasian Female With Progressive Somnolence -----	Feb.	27	An 80 Year Old Caucasian Male With Fatigue and Chest Pain of Ten Days Duration		
Shannon Turney, M.D.			J. F. Barlow, M.D. and Lynn I. DeMarco, M.D. -----	June	21
Fifty-nine Year Old Carpenter With Pain in the Right Foot and Calf of Four Weeks Duration -----	Mar.	27	Sixty-four Year Old Man With Severe Back Pain of Five Days Duration		
Dorence L. Ensberg, M.D.			J. F. Barlow, M.D. and H. P. Gross, M.D. -----	July	25
Sixty-eight Year Old Woman With Abdominal Pain, Weakness and Fever -----	Apr.	27	Fifty Year Old Woman with Nocturia		
W. O. Rossing, M.D.			J. F. Barlow, M.D. and B. J. Begley, M.D. -----	Sept.	27
An Eighty Year Old Caucasian Female With Fever of Unknown Origin -----	May	24	68 Year Old Caucasian Female With Generalized Aching		
Lynn I. DeMarco, M.D.			J. F. Barlow, M.D. and James Felker, M.D. -----	Dec.	5
An Eighty Year Old Caucasian Male With Fatigue and Chest Pain of Ten Days Duration -----	June	21	Council on Environmental and Public Health-AMA		
H. P. Gross, M.D.			Statement on Venereal Disease -----	July	18
Sixty-four Year Old Man With Severe Back Pain of Five Days Duration -----	July	25	Critique of the Hardin Committee Report on Health Science Education—South Dakota, A		
B. J. Begley, M.D.			Henry M. Parrish, M.D. -----	Nov.	29
Fifty Year Old Woman With Nocturia -----	Sept.	27	<b>D</b>		
James R. Felker, M.D.			De Marco, Lynn I., M.D.		
Sixty-eight Year Old Caucasian Female With Generalized Aching -----	Dec.	5	Clinicopathological Conference		
Barron, G. Robert, M.D.			An 80 Year Old Caucasian Male With Fatigue and Chest Pain of Ten Days Duration		
President's Page			J. F. Barlow, M.D. -----	June	21
June—p. 16, July—p. 20, Aug.—p. 48, Sept.—p. 21, Oct.—p. 20, Nov.—p. 37 Dec.—p. 26.			Donahoe, John W., M.D.		
Beasley, John W., M.D.			Clinicopathological Conference		
J. B. Gregg, M.D.			Sixty-five Year Old Female With Auricular Fibrillation With Sudden Onset of Coma		
Single Stage Repair of a Median Cleft Lip in an Infant With Premaxillary Agensis -----	May	15	J. F. Barlow, M.D. -----	Jan.	25
Begley, B. J., M.D.			Doubrava, S.M., M.D.		
Clinicopathological Conference			Ketamine Anesthesia		
J. F. Barlow, M.D.			Eugene Larson, RNA -----	Oct.	13
Fifty Year Old Woman With Nocturia -----	Sept.	27	Drug Information Network		
Blair, Richard W., M.S.			Paul E. Groth, Director -----	Mar.	36
Economics					
South Dakota Plan for Merging the Functions of Regional Medical Programs With Those of Comprehensive Health Planning					
H. M. Parrish, M.D.; R. H. Hayes M.D.; J. R. Nordstrom, M.S.P.H. -----	Sept.	32			
Brain Abscess					
S. Sochocky, M.D. -----	July	13			
Brzica, S. M., M.D.					
J. L. Lesler					
The Use of Disclosure of Medical					



E	Month	Page
Economics:		
Regional Medical Library—Regional Program Cooperation		
E. N. Jyvaskyla, M.S.; J. R. Nordstrom, MSPH; H. M. Parrish, M.D. ....	Feb.	37
The Future Development of South Dakota's School of Medicine		
Geo. W. Knabe, Jr., M.D. ....	Mar.	15
South Dakota's Plan for Merging the Functions of Regional Medical Programs with Those of Comprehensive Health Planning		
H. M. Parrish, M.D.; J. R. Nordstrom, MSPH; R. H. Hayes, M.D.; R. W. Blair, M.S. ....	Sept.	32
Health Care Cost Increase—Nationally and South Dakota		
J. B. Gregg, M.D. ....	Oct.	31
Editorials:		
The Fainting on the John—Syndrome		
E. H. Heinrichs, M.D. ....	Jan.	45
Res Ipse Loquitur—The Matter Speaks For Itself		
J. B. Gregg, M.D. ....	May	40
A Tornado Warning Mechanism For Isolated Communities, Farms and Ranches		
J. B. Gregg, M.D. ....	June	15
Alcohol Detection Tests: A Source of Error		
J. B. Gregg, M.D. ....	July	30
Ensborg, Dorence L., M.D.		
Clinicopathological Conference		
Sixty-eight Year Old Woman With Abdominal Pain, Weakness and Fever		
J. F. Barlow, M.D. ....	Apr.	27
F		
Fainting on the John—Syndrome		
Editorial		
E. H. Heinrichs, M.D. ....	Jan.	45
Family Practice: Present and Future		
A. Sherwood Baker, M.D. ....	Feb.	12
Felker, James R., M.D.		
Clinicopathological Conference		
68 Year Old Caucasian Female With Generalized Aching		
J. F. Barlow, M.D. ....	Dec.	5
Fletcher, Thomas F., D.V.M., Ph. D.		
Peripheral Neuropathy and Central Nervous System Lesions in Canine Globoid—Cell Leukodystrophy (Krabbe's Disease)		
Harold J. Kurtz, D.V.M., Ph. D. ....	July	5
Future Development of South Dakota's School of Medicine, The		
Economics		
George W. Knabe, Jr., M.D. ....	Mar.	15
G		
Ganglion Cyst Causing Ulnar Compression Syndrome at the Wrist		
J. B. Kullbom, M.D.		
R. E. Van Demark, M.D. ....	Jan.	5
Giant Follicular Lymphoma of Kidney: Arteriographic Findings		
Martin F. Petereit, M.D. ....	Apr.	5
Gregg, John B., M.D.		
Single Stage Repair of a Median Cleft Lip in an Infant with Premaxillary Agensis		
John W. Beasley, M.D. ....	May	15
Editorial		
Res Ipse Loquitur—The Matter Speaks For Itself		
	May	40

	Month	Page
Editorial		
A Tornado Warning Mechanism for Isolated Communities, Farms and Ranches	June	15
Editorial		
Alcohol Detection Tests: A Source of Error	July	30
Economics		
Health Care Cost Increases—Nationally and South Dakota	Oct.	31
Gross, H. P., M.D.		
Clinicopathological Conference		
Sixty-four Year Old Man With Severe Back Pain of Five Days Duration		
J. F. Barlow, M.D. ....	July	25
Groth, Paul E., Director		
Drug Information Network	Mar.	36
H		
Hardin, Robert C., M.D.		
Report on Health Science Education—South Dakota		
K. E. Penrod, Ph.D., R. Pruitt, M.D. ....	Nov.	13
Hayes, Robert H., M.D.		
Economics		
South Dakota's Plan For Merging the Functions of Regional Medical Programs With Those of Comprehensive Health Planning		
H. M. Parrish, M.D., J. R. Nordstrom, MSPH, R. W. Blair, M.S. ....	Sept.	32
Health Care Cost Increases—Nationally and South Dakota		
J. B. Gregg, M.D.		
Economics	Oct.	31
Heinrichs, E. H., M.D.		
Editorial		
The Fainting on the John—Syndrome	Jan.	45
Hoskins, John H., M.D.		
Vasectomy	Mar.	5
J		
Jyvaskyla, E. N., M.S.		
Economics		
Regional Medical Library—Regional Medical Program Cooperation		
J. R. Nordstrom, MSPH, H. M. Parrish, M.D. ....	Feb.	37
K		
Ketamine Anesthesia		
S. M. Doubrava, M.D.		
Eugene Larson, RNA	Oct.	13
King, Spencer B., III, M.D.		
Fred W. Schoonmaker, M.D.		
When to Catheterize the Patient With Suspected Congenital Heart Disease	Apr.	13
Knabe, George W., Jr., M.D.		
Economics		
The Future Development of South Dakota's School of Medicine	Mar.	15
Kullbom, James, M.D.		
Ganglion Cyst Causing Ulnar Compression Syndrome at the Wrist		
R. E. Van Demark, M.D. ....	Jan.	5
Kurtz, Harold J., D.V.M., Ph.D.		
Peripheral Neuropathy and Central Nervous System Lesions in Canine Globoid—Cell Leukodystrophy (Krabbe's Disease)		
Thomas F. Fletcher, D.V.M., Ph.D. ....	July	5
L		
Larson, Eugene, RNA		
Ketamine Anesthesia		
S. M. Doubrava, M.D. ....	Oct.	13



	Month	Page		Month	Page
Lesler, J. L. The Use and Disclosure of Medical Information Submitted for Social Security Disability Purposes S. M. Brzica, M.D. -----	Sept.	20	Pruitt, Raymond, M.D. Report on Health Science Education— South Dakota K. E. Penrod, Ph.D. -----	Nov.	13
Letters to the Editor Feb.—p. 36, April—p. 19, June—p. 29			Pulmonary Candidiasis S. Sochocky, M.D. -----	Feb.	5
<b>M</b>			Pulmonary Coccidioidomycosis S. Sochocky, M.D. -----	June	12
Menisceal Tearing In Pseudogout (Chondrocalcinosis Pyrophosphate Arthropathy) R. E. Van Demark, M.D. -----	Oct.	5	<b>R</b>		
Minutes of the Council Meeting Jan.—p. 36, Feb.—p. 43, June—p. 31, Dec.—p. 15.			Radiological Case Presentation No. 8 Martin F. Petereit, M.D. -----	Oct.	25
Month In Washington, The -----	Mar.	40	Ranney, Brooks, M.D. Sex Education and Family Planning Advice by South Dakota Doctors I. Sex Education -----	May	5
Muggly, J. A., M.D. President's Page Jan.—p. 39, Feb.—p. 22, Mar.—p. 43, Apr.—p. 22, May—p. 37			Sex Education and Family Planning Advice by South Dakota Doctors II. Family Planning -----	June	5
<b>N</b>			Read, William O., Ph.D. The Role of Surfactant in Normal Physiology of the Lung -----	Sept.	7
Nordstrom, James R., MSPH Economics Regional Medical Library—Regional Medical Program Cooperation E. N. Jyvaskyla, M.S., H. M. Parrish, M.D. -----	Feb.	37	Regional Medical Library—Regional Medical Program Cooperation Economics E. N. Jyvaskyla, M.S., James R. Nord- strom, MSPH, H. M. Parrish, M.D. ....	Feb.	37
Economics South Dakota's Plan for Merging the Functions of Regional Medical Programs With Those of Comprehen- sive Health Planning H. M. Parrish, M.D., R. H. Hayes, M.D. R. W. Blair, M.S. -----	Sept.	32	Report on Health Science Education— South Dakota R. C. Hardin, M.D., K. E. Penrod, Ph.D., R. Pruitt, M.D. -----	Nov.	13
North American Blastomycosis S. Sochocky, M.D. -----	Jan.	14	Res Ipse Loquitur—The Matter Speaks For Itself Editorial J. B. Gregg, M.D. -----	May	40
<b>P</b>			Role of Surfactant in Normal Physiology of the Lung, The Wm. O. Read, Ph.D. -----	Sept.	7
Parrish, Henry, M.D. Economics Regional Medical Library—Regional Medical Program Cooperation E. N. Jyvaskyla, M.S. J. R. Nordstrom, MSPH -----	Feb.	37	Rossing, William, M.D. Clinicopathological Conference An 80 Year Old Caucasian Female With Fever of Unknown Origin J. F. Barlow, M.D. -----	May	24
Economics South Dakota's Plan for Merging the Functions of Regional Medical Pro- grams With Those of Comprehensive Health Planning R. H. Hayes, M.D. J. R. Nordstrom, MSPH -----	Sept.	32	Roster -----	Aug.	50
A Critique of The Hardin Committee Report on Health Science Education— South Dakota -----	Nov.	29	<b>S</b>		
Penrod, Kenneth E., Ph.D. Report on Health Science Education— South Dakota R. C. Hardin, M.D. R. Pruitt, M.D. -----	Nov.	13	Sanderson, Everett W., M.D. Clinicopathological Conference Sixty-six Year Old Caucasian Female With Progressive Somnolence J. F. Barlow, M.D. -----	Feb.	27
Peripheral Neuropathy and Central Nervous System Lesions in Canine Globoid—Cell Leukodystrophy (Krabbe's Disease) Harold J. Kurtz, D.V.M., Ph.D. Thomas F. Fletcher, D.V.M., Ph.D. ....	July	5	Schoonmaker, Fred W., M.D. When to Catheterize the Patient With Suspected Congenital Heart Disease Spencer B. King, III, M.D. -----	Apr.	13
Petereit, Martin F., M.D. Giant Follicular Lymphoma of Kidney: Arteriographic Findings -----	Apr.	5	Sex Education and Family Planning Advice by South Dakota Doctors I. Sex Education Brooks Ranney, M.D. -----	May	5
Radiological Case Presentation No. 8 ---	Oct.	25	Sex Education and Family Planning Advice by South Dakota Doctors II. Family Planning Brooks Ranney, M.D. -----	June	5
President's Page J. A. Muggly, M.D.—Jan.—p. 39, Feb.— p. 22, Mar.—p. 43, Apr.—p. 22, May— p. 37 G. R. Bartron, M.D.—June—p. 16, July— p. 20, Aug.—p. 48, Sept.—p. 21, Oct.— p. 20, Nov.—p. 37, Dec.—p. 26.			Simon, Stuart B., M.D. Trichotillomania -----	Apr.	36
			Single Stage Repair of a Median Cleft Lip in an Infant with Premaxillary Agensis J. W. Beasley, M.D., J. B. Gregg, M.D. ....	May	15
			Sochocky, S., M.D. North American Blastomycosis -----	Jan.	14
			Pulmonary Candidiasis -----	Feb.	5
			Pulmonary Coccidioidomycosis -----	June	12
			Brain Abscess -----	July	13
			South Dakota's Plan for Merging The Functions of Regional Medical Programs With Those of Comprehensive Health Planning		



	Month	Page
Economics		
H. M. Parrish, M.D., J. R. Nordstrom, MSPH, R. H. Hayes, M.D., R. W. Blair, MS	Sept.	32
Statement on Venereal Disease		
Council on Environmental and Public Health—AMA	July	18

## T

This Is Your Medical Association		
Jan.—p. 35, Feb.—p. 11, Mar.—p. 34, Apr.—p. 44, May—p. 44, June—p. 27, July—p. 33, Aug.—p. 49, Sept.—p. 38, Oct.—p. 36, Nov.—p. 47, Dec.—p. 31.		
Tornado Warning Mechanism for Isolated Communities, Farms and Ranches, A Editorial		
J. B. Gregg, M.D.	June	15
Transactions of the South Dakota State Medical Association		
Ninetieth Annual Session	Aug.	5
Trichotillomania		
Stuart B. Simon, M.D.	Apr.	36
Turney, Shannon, M.D.		
Clinicopathological Conference		
Fifty-nine Year Old Carpenter With Pain in the Right Foot and Calf of Four Weeks Duration		
J. F. Barlow, M.D.	Mar.	27
Twenty Years Ago In the Journal	Apr.	49

## U

University Medical School, The Editorial		
R. E. Van Demark, M.D.	Nov.	45
Use and Disclosure of Medical Information Submitted for Social Security Disability Purposes, The		
S. M. Brzica, M.D., J. L. Lesler	Sept.	20

## V

Van Demark, Robert E., M.D.		
Ganglion Cyst Causing Ulnar Compression at the Wrist		
James B. Kullbom, M.D.	Jan.	5
Meniscal Tearing in Pseudogout (Chondrocalcinosis Pyrophosphate Arthropathy)	Oct.	5
Editorial		
The University Medical School	Nov.	45
Vasectomy		
John H. Hoskins, M.D.	Mar.	5

## W

When To Catheterize the Patient With Suspected Congenital Heart Disease		
Spencer B. King, III, M.D.		
F. W. Schoonmaker, M.D.	Apr.	13

## HEALTH CARE SYSTEMS

The National Center for Health Services Research and Development of the Department of Health, Education, and Welfare has recently awarded the Department of Industrial Engineering at the University of Missouri-Columbia a training grant to support a Ph.D. program in Health Care Systems Design. This grant provides additional resources to support the Department's extensive current commitment in this area. A vital feature of the pro-

gram is the unique collaboration between the University School of Medicine and the College of Engineering. The program emphasizes industrial engineering analysis tools, as well as medical diagnosis and treatment practice, health care organization, and methods of health care systems evaluation. These areas of emphasis are applied in a series of design experiences. The program culminates in an original research dissertation.

A limited number of openings for admission and financial support are available to highly qualified persons with medical, paramedical, engineering, and science backgrounds, who have a professional commitment to research, design, or management of health care systems. Persons with a strong quantitative background who are interested in the program may write for more information to H. Allan Knappenberger, Ph.D.; Professor and Director of Graduate Studies; Department of Industrial Engineering; University of Missouri; Columbia, Mo. 65201.



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